MHC-2800

SERVICE MANUAL

AEP Model
UK Model

- MHC2800 is composed of following models. As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR MHC-2800

TUNER/AMPLIFIER	STR-H2800
CD PLAYER/CASSETTE DECK	HTC-H2800
SPEAKER SYSTEM	SS-H2800

SPECIFICATIONS

Power requirements	AEP, G, IT, EE model: 220 V – 230 V, 50/60 Hz UK model: 240 V, 50 Hz
Power consumption	113 watts
Dimensions	Approx. 225 × 350 × 270 mm (w/h/d) ($8\,^7/_8 \times 13\,^7/_8 \times 10\,^3/_4$ inches) incl. projecting parts and controls
Mass	Approx. 8.1 kg (17 lb 14 oz)
Supplied accessories	Remote Commander (1) (RM-S280) Sony SUM-3 (NS) batteries (2) AM loop antenna (1) FM antenna (1) AC power cord (1) Flat cord (1)

Design and specifications subject to change without notice.

PARTS LIST

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- G : German model
- IT : Italian model
- EE : East European model

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
		ACCESSORIES & PACKING MATERIALS ******************************	
	1-467-109-11	COMMANDER, STANDARD (RM-S280)	
	1-501-374-11	ANTENNA, LOOP	
	1-501-594-11	ANTENNA (FM)	
⚠	1-575-131-11	CORD, POWER (AEP, EE, G, IT)	
⚠	1-590-866-21	CORD, POWER (UK)	
	1-696-412-11	CORD (WITH CONNECTOR)	
	3-756-202-11	MANUAL, INSTRUCTION (English, French, Spanish, Dutch, Chinese) (AEP, UK)	
	3-756-202-41	MANUAL, INSTRUCTION (German, Swedish, Italian, Portuguese) (AEP)	
	3-756-202-51	MANUAL, INSTRUCTION (German, Italian) (G, IT)	
	3-756-202-71	MANUAL, INSTRUCTION (English, German, Polish, Russian) (EE)	
	4-956-911-01	LID, SLIDE (for RM-S280)	
*	4-956-934-01	CUSHION (FRONT) (for HTC, STR)	
*	4-956-935-01	CUSHION (REAR) (for HTC, STR)	
*	4-957-584-01	INDIVIDUAL CARTON (for MHC) (AEP, UK, EE)	
*	4-957-586-01	INDIVIDUAL CARTON (for HTC) (AEP, G, IT)	
*	4-957-587-01	INDIVIDUAL CARTON (for STR) (AEP, G, IT)	

MC-Service

MINI Hi-Fi COMPONENT SYSTEM

SONY®

MICROFILM

9-957-649-11

Sony Corporation
Audio Group

English
93B1962-1
Printed in Japan
© 1993.2

Published by Audio Corporate Planning Group

HTC-H2800

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model
Tourist Model

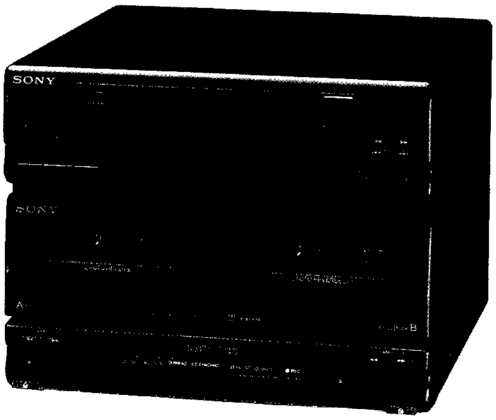
Photo: E model

This set is the cassette deck, CD player section in MHC-2800 and FH-E6X.

SPECIFICATIONS

CD player/Cassette Deck

CD player section

System	Compact disc digital audio system
Laser	Semiconductor laser
Wave length	780 — 790 nm

Cassette deck section

Recording system	4-track 2-channel stereo
Frequency response	(DOLBY NR OFF) 40 — 13,000 Hz (±3 dB), using a TYPE I cassette (Sony HF-S) 40 — 14,000 Hz (±3 dB), using a TYPE II cassette (Sony UX-S) 40 — 15,000 Hz (±3 dB), using a TYPE IV cassette (Sony Metal-S)
Wow and flutter	0.1% WRMS ±0.3% (DIN)
Dimensions	Approx. 225 x 175 x 230mm (w/h/d) ($8^7/_8$ x $6^9/_{10}$ x $9^1/_8$ inches) incl. projecting parts and controls.
Mass	Approx. 3.5kg (7 lb11 oz)

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

CD SECTION	Model Name Using Similar Mechanism	HCD-H1700
	CD Mechanism Type	CDM13BC-5BD14
	Base Unit Name	BU-5BD14
CASSETTE DECK SECTION	Model Name Using Similar Mechanism	DECK-A: TC-H1700
		DECK-B: TC-H1700
	Tape Transport Mechanism Type	DECK-A: TCM-190RA12AS
		DECK-B: TCM-190RB22A

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. " DOLBY" and the double-D symbol ⅅ are trademarks of Dolby Laboratories Licensing Corporation.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

CAUTION	; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING	; LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD.
ADVARSEL	; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

COMPACT DISC DECK

SONY®

MICROFILM

MC-Service

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NOTE :

EE : East European
G : German
IT : Italian
EA : Saudi Arabia
AUS : Australian
JE : Tourist

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTE

1-1. SUPPLY OF POWER DURING SERVICES

Because the equipment is not provided with any power supply, it is operated with power supplied from the tuner/amplifier STR-H2800 used. The equipment requires the following 3 types of voltage. Therefore, connect the equipment to STR-H2800 for services such as repairing with power supplied, because it will be too complicated to supply these voltages individually.

VOLTAGE	MAJOR CIRCUIT IN USE
AC 24V	FL tube drive voltage (*2 OUT)
AC 4V	FL tube filament voltage (VF)
AC7V	All voltage except those specified above. (AC)

1-2. LASER NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

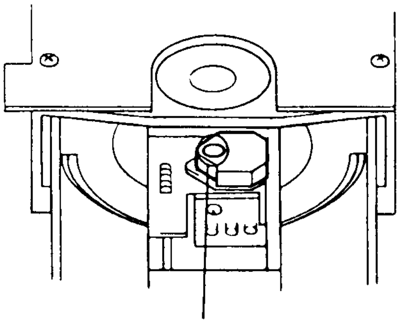
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

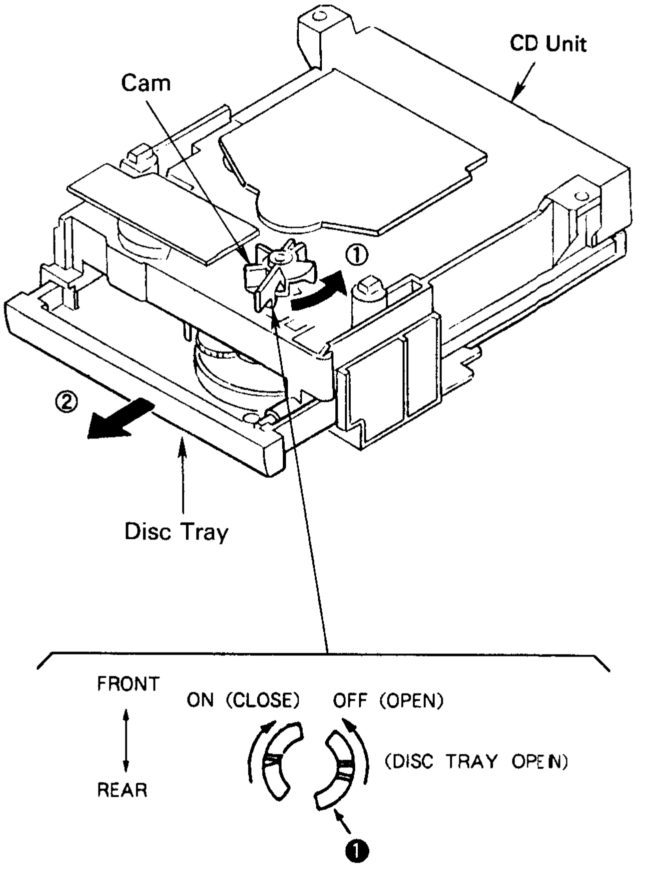
1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objective lens.



❶ Confirm that laser beam is spread.
❷ Up and down motion of the objective lens. (3 times)

1-3. HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

❶ Remove the CD unit from the main body. (see page 5)
❷ Turn the CD unit upside down, turn the cam in the direction of the arrow and pull out the disc tray.

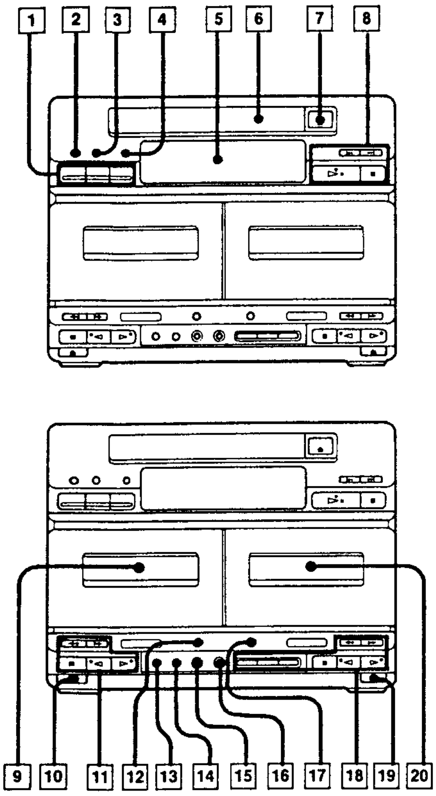


SECTION 2
GENERAL

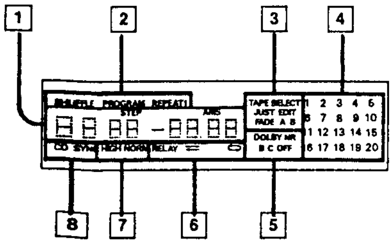
This section is extracted from instruction manual.

Parts Identification

C


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

D


1
2
3
4
SHUFFLE PROGRAM REPEAT1
STEP
AMS
CD SYNC
HIGH NORM
RELAY
TAPE SELECT
JUST EDIT
FADE A B
DOLBY NR
B C OFF
8
7
6
5

CD Player/Cassette Deck C

CD Player Section

1. PLAY MODE buttons
   - CONTINUE button
   - SHUFFLE button
   - PROGRAM button
2. EDIT button
3. CHECK button
4. DISPLAY button
5. Display window
6. Disc tray
7. OPEN/CLOSE ⏏ button
8. CD operation buttons
   - ⏮◀◀ ▶▶⏭ : Manual search (when kept depressed)/Automatic Music Sensor (when pressed) ▷II : Play/Pause
   - ■ : Stop

Cassette Deck Section

9. Cassette holder (Deck A)
10. EJECT ⏏ button (Deck A)
11. Tape operation buttons (for Deck A)
    - ◀◀ ▶▶ AMS: Fast winding
    - ■ : Stop ▷ : Forward play
    - ◁ : Reverse play
12. COUNTER RESET button
13. DOLBY NR (Dolby Noise Reduction) selection button
14. DIRECTION button
15. DUBBING button and indicator
16. CD SYNCHRO (CD synchronized recording) button and indicator
17. COUNTER A/B selector
18. Tape operation buttons (for Deck B)
    - II PAUSE button
    - ○ MUTE button
    - ● REC button
    - ◀◀ ▶▶ AMS: Fast winding
    - ■ : Stop
    - ▷ : Forward play
    - ◁ : Reverse play
19. EJECT ⏏ button (Deck B)
20. Cassette holder (Deck B)

Display Window D

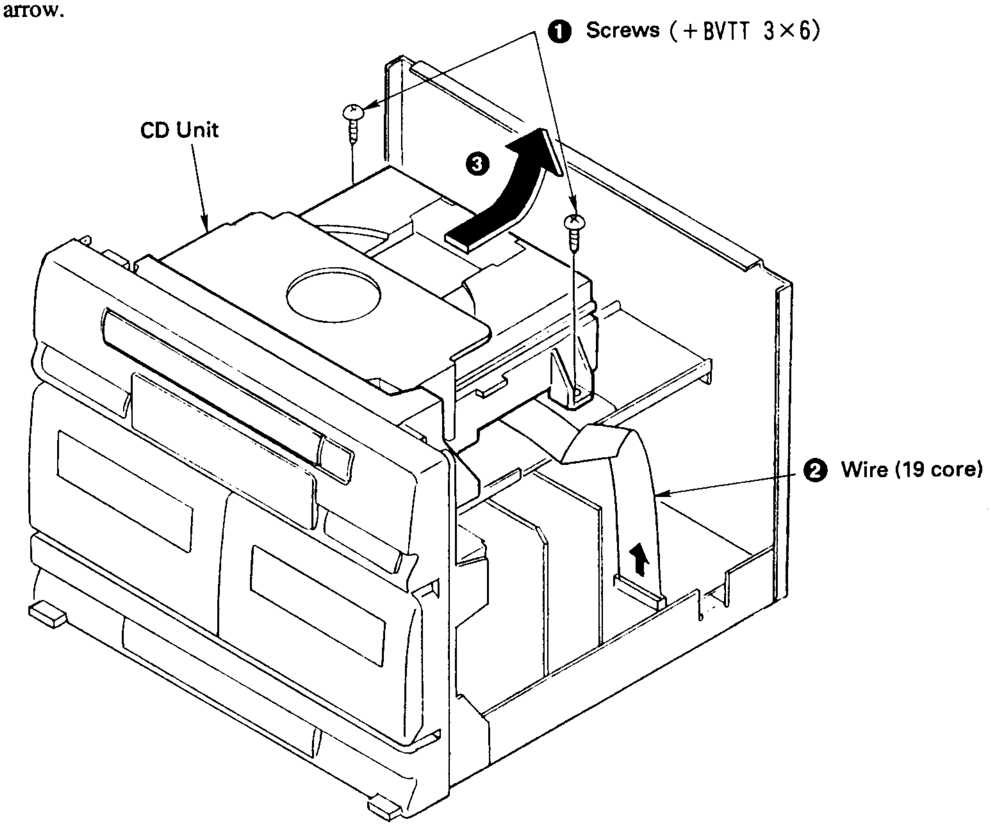
1. Counter display (CD player/Cassette deck)
2. CD playing mode indications
3. CD editing mode indications
4. CD selection numbers display
5. DOLBY NR indications
   - For Europe and U.K.: B/C/OFF
   - For other countries: B/OFF
6. Direction mode indications
7. Dubbing mode indications
8. CD SYNC (CD synchronized recording) indication

SECTION 3
DISASSEMBLY

- **Remove the following devices shown by ❶, etc. in the order of the numbers.**

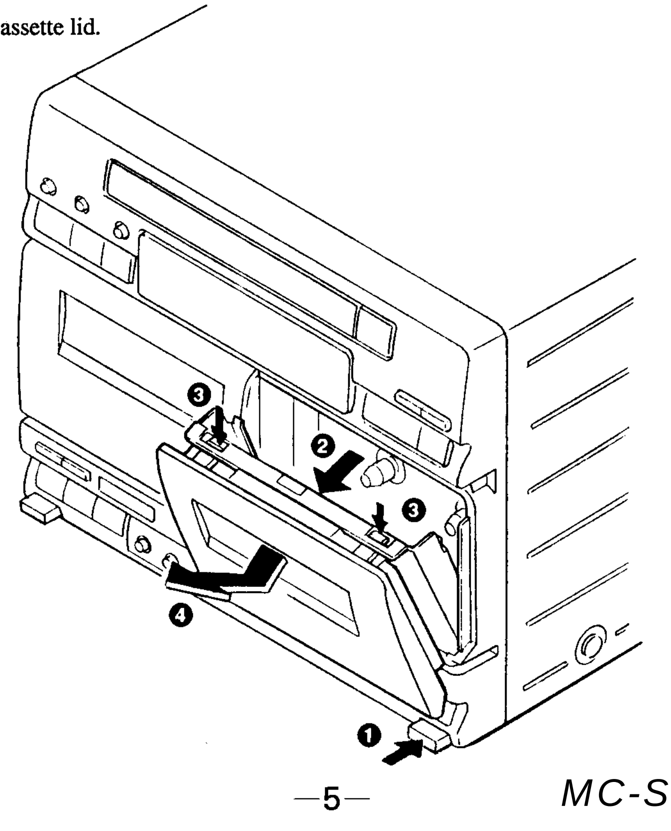
REMOVAL OF CD UNIT

After taking out the case, remove the two screws and full out the CD unit in the direction of the arrow.


❶ Screws (+BVTT 3×6)
CD Unit
❸
❷ Wire (19 core)

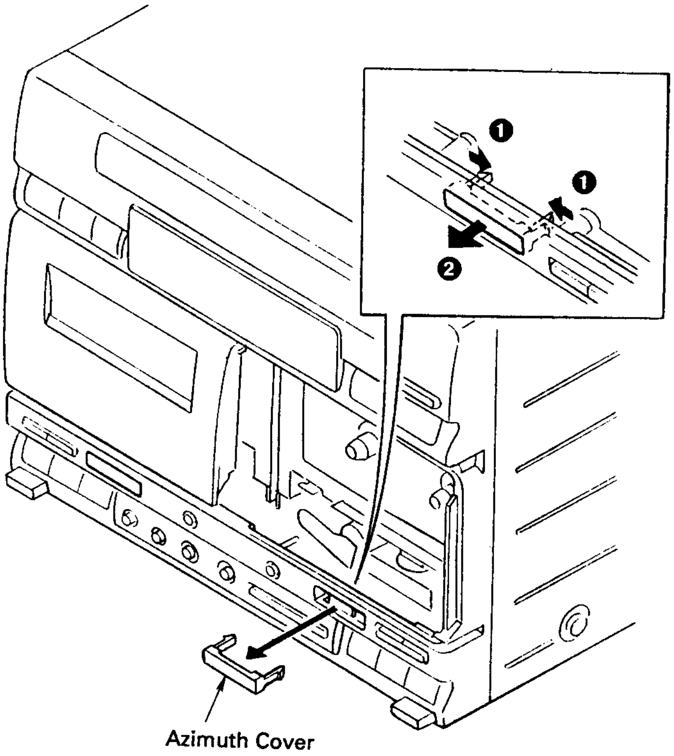
REMOVAL OF CASSETTE LID

Remove 2 hooks and remove the cassette lid.



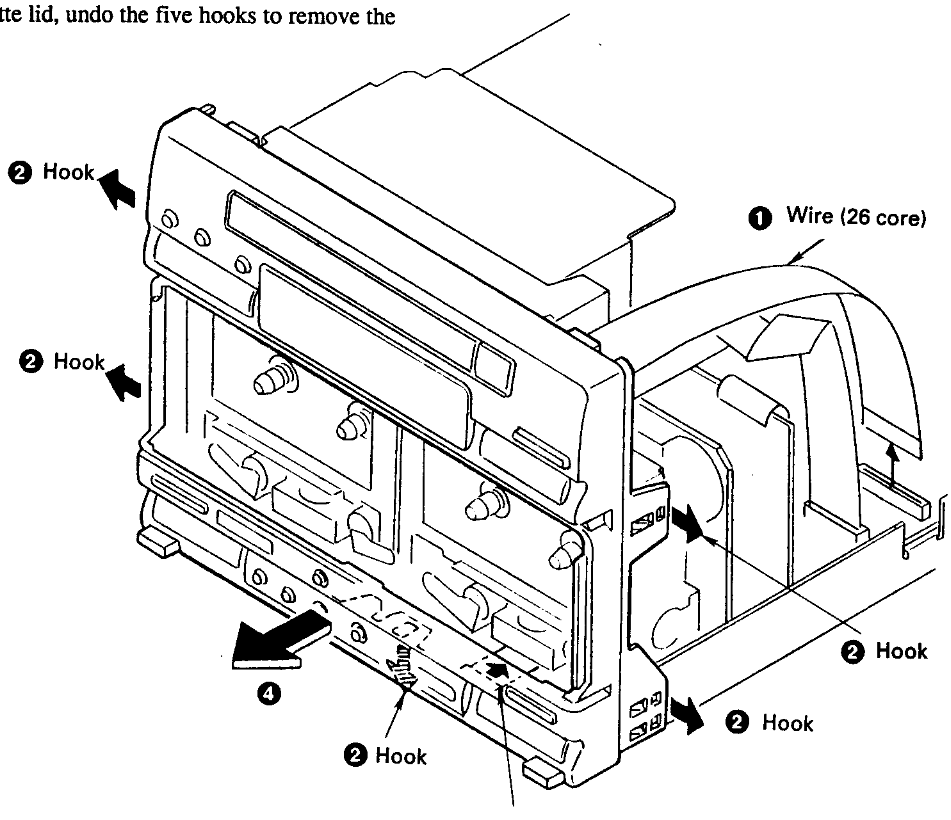
REMOVAL OF AZIMUTH COVER

After completion of removing the cassette lid, remove the azimuth cover by pushing the hooks toward inside.


❶
❶
❷
Azimuth Cover

REMOVAL OF FRONT PANEL

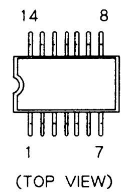
After removing the cassette lid, undo the five hooks to remove the front panel.


❷ Hook
❶ Wire (26 core)
❷ Hook
❷ Hook
❷ Hook
❹
❷ Hook
❸ Wire (11 core)

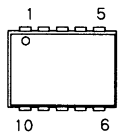
SECTION 4
DIAGRAMS

4-1. SEMICONDUCTOR LEAD LAYOUTS

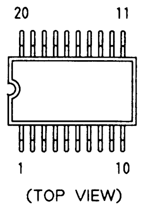
BA3308F
CD4066BCM


14
8
1
7
(TOP VIEW)

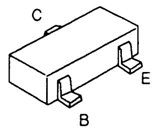
LA5601



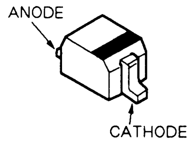
PCM67U-B


20
11
1
10
(TOP VIEW)

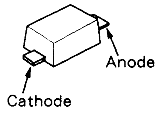
DTA144EK
2SA1602-F
2SC3395
2SC3397
2SC3398
2SC4154-F



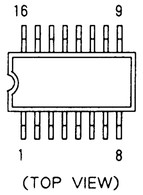
1SS352
02DZ2.0-TPH3


ANODE
CATHODE

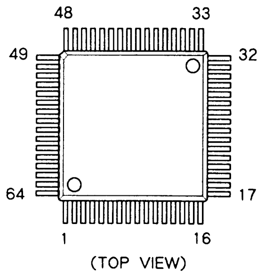
MA8039
MA8091


Anode
Cathode

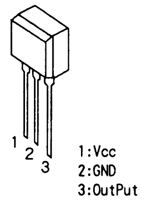
CD4052BCM
CXA1101M
CXA1578M
HD14053BFP


16
9
1
8
(TOP VIEW)

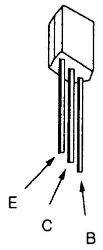
M38022M4-072FP


48
33
49
32
64
17
1
16
(TOP VIEW)

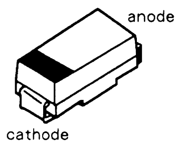
PST572E


1
2
3
1:Vcc
2:GND
3:OutPut

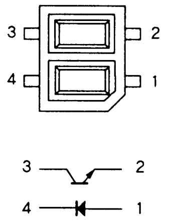
2SA1344
2SC2603-EF



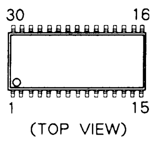
EC10DS2


anode
cathode

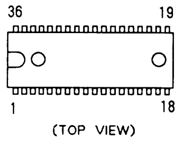
NJL5165K-B



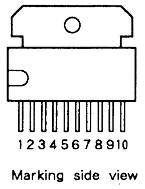
CXA1331M
LA6525M


30
16
1
15
(TOP VIEW)

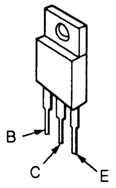
M50925-482FP


36
19
1
18
(TOP VIEW)

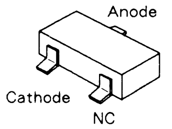
TA7272P


12345678910
Marking side view

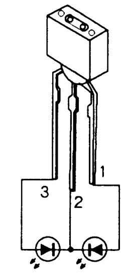
2SB1094-LK
2SD2012



MA141A


Anode
Cathode
NC

SEL1260S
SML1960A



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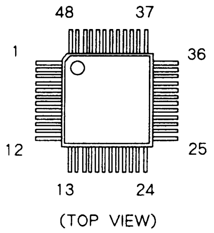
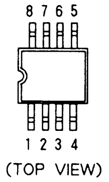
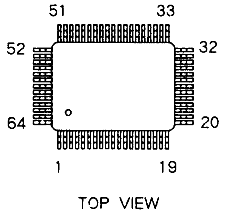

48
37
1
36
12
25
13
24
(TOP VIEW)

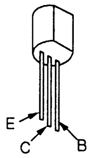
M5218AFP
RC4558PS
µ PC4570G2


8 7 6 5
1 2 3 4
(TOP VIEW)

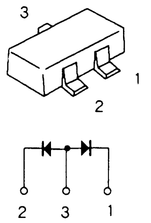
µPD75116GF-G29-3BE
µPD75212AGF-569-3BE


51
33
52
32
64
20
1
19
TOP VIEW

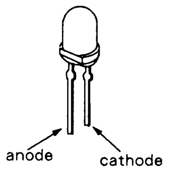
2SB1116-L



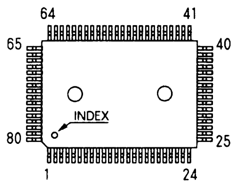
MA141WK



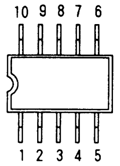
SEL2410E
SML1460E


anode
cathode

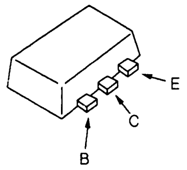
CXD2505Q


64
41
65
40
INDEX
80
25
1
24

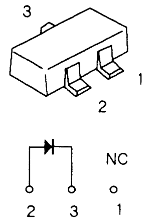
M54641FP


10 9 8 7 6
1 2 3 4 5

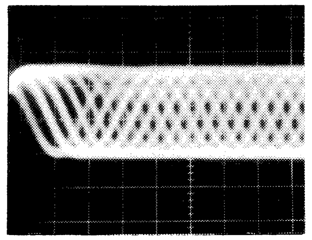
2SB1122-S
2SD1622-S



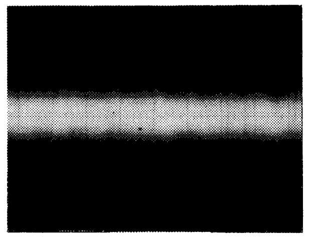
MA3056-L
MA3068-L
MA3082
MA3091L-TX
MA3240H-TX



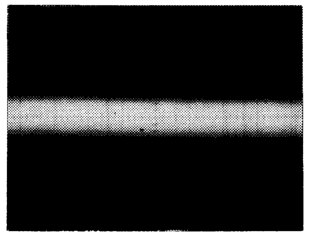
4-2. WAVEFORMS



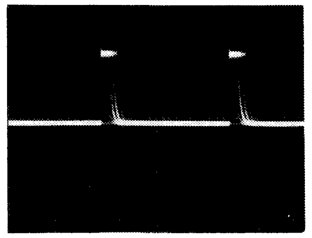
❶ IC101 ㊴pin (RFI)
PLAY mode
Approx. 1.2Vp-p



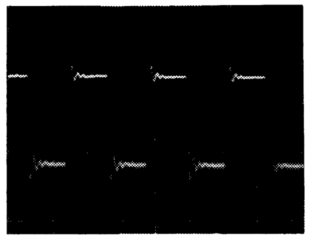
❷ IC101 ㊸pin (TE)
PLAY mode
Approx. 600mVp-p



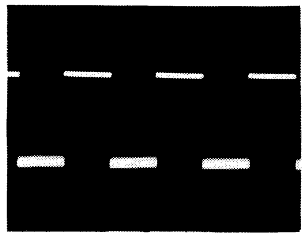
❸ IC101 ㊼pin (FE)
PLAY mode
Approx. 60mVp-p



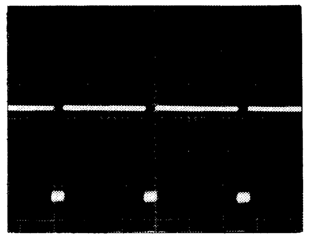
❹ IC201 ④pin (MDP)
PLAY mode
2Vp-p, 7.6µsec



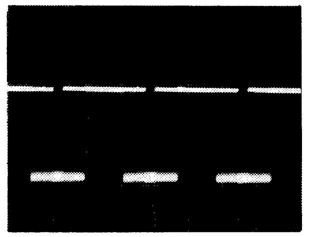
❺ IC201 ㊶pin (XPCLK)
6.8Vp-p, 0.23µsec



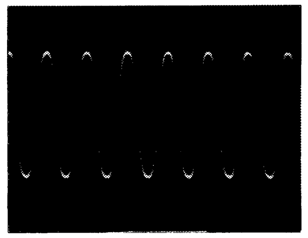
❻ IC201 ㊸pin (RFCK)
5Vp-p, 140µsec



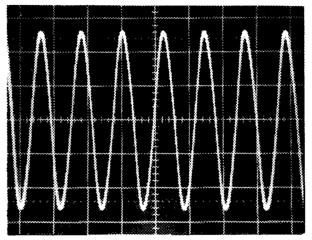
❼ IC201 ㊻pin (MNT3)
5.2Vp-p, 140µsec



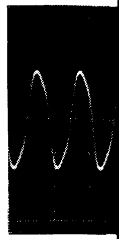
❽ IC201 ㊼pin (MNT1),
IC201 ㊽pin (MNT2)
5.2Vp-p, 140µsec



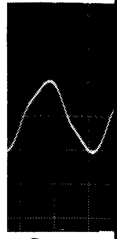
❾ IC201 ㊾pin (XTAI)
3.8Vp-p, 55nsec



❿ IC201 ㊿pin (XTAO)
5.2Vp-p, 55nsec



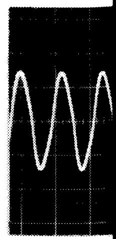
⓫ IC20
6Vp-



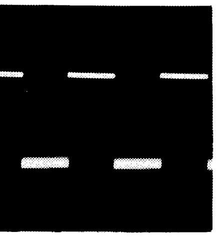
⓬ IC20
4.4V

⓭ IC30
IC20
3.6Vp

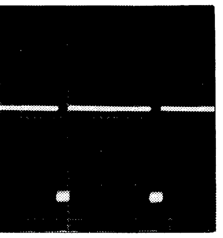
⓮ IC30
IC20
5.2Vp



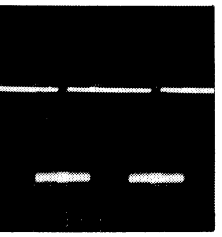
⓯ IC90
5.8Vp



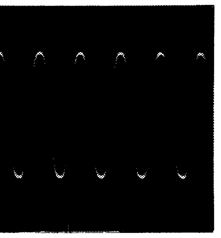
01 ㊸pin (RFCK)
-p, 140μsec



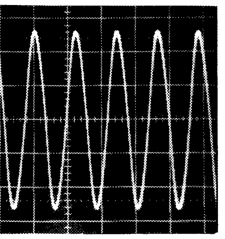
01 ㊻pin (MNT3)
p-p, 140μsec



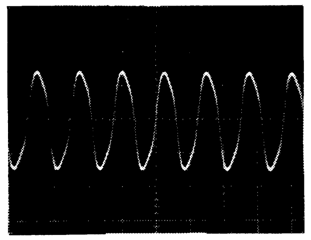
01 ㊼pin (MNT1),
01 ㊽pin (MNT2)
p-p, 140μsec



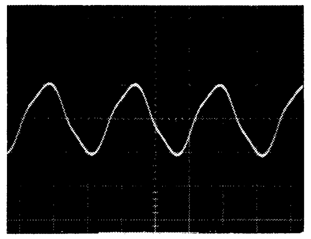
01 (53)pin (XTAI)
p-p, 55nsec



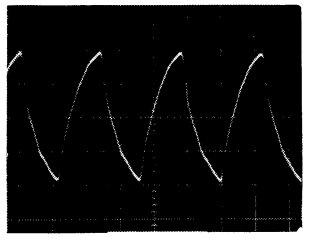
01 (54)pin (XTAO)
p-p, 55nsec



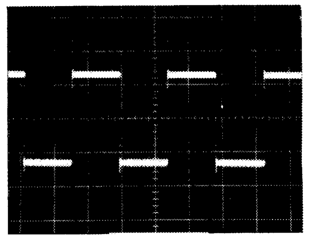
⓫ IC202 ⑧pin (X2)
6Vp-p, 0.26μsec



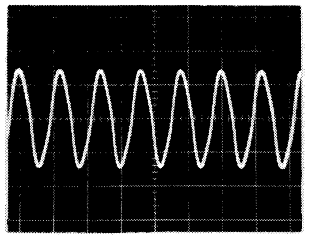
⓬ IC202 ⑨pin (X1)
4.4Vp-p, 0.26μsec



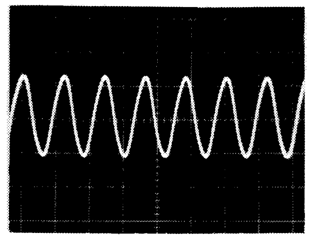
⓭ IC301 ⑭pin (BCK)
IC201 ⑦pin (BCK)
3.6Vp-p, 0.12μsec



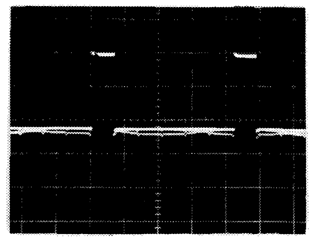
⓮ IC301 ⑯pin (WDCK)
IC201 ⑮pin (LRCK)
5.2Vp-p, 5.6μsec



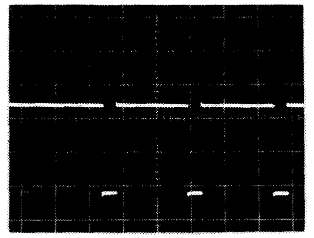
⓯ IC901 (57)pin (X2)
5.8Vp-p, 0.24μsec



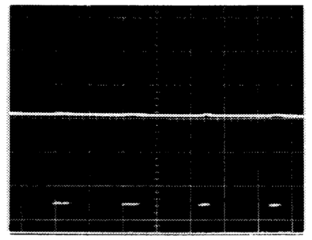
⓰ IC901 (56)pin (X1)
4.8Vp-p, 0.24μsec



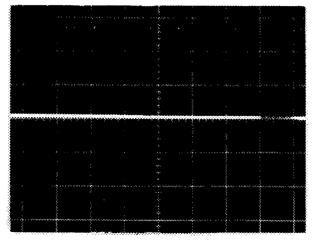
⓱ IC901 ②-⑪pin
(1G-10G)
24Vp-p, 8.4msec



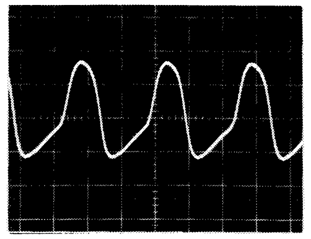
⓲ IC901 ㉛pin (TCSYNC)
5.2Vp-p, 25msec



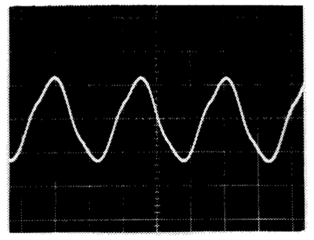
⓳ IC901 ㉜pin (TCCLK)
5.2Vp-p, 2.2msec



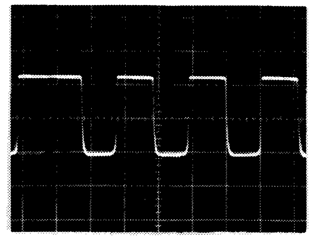
⓴ IC901 ㉞pin (TCDAT)
5.4Vp-p, 26msec



㉑ IC601 ㉓pin (XOUT)
5.6Vp-p, 0.25μsec

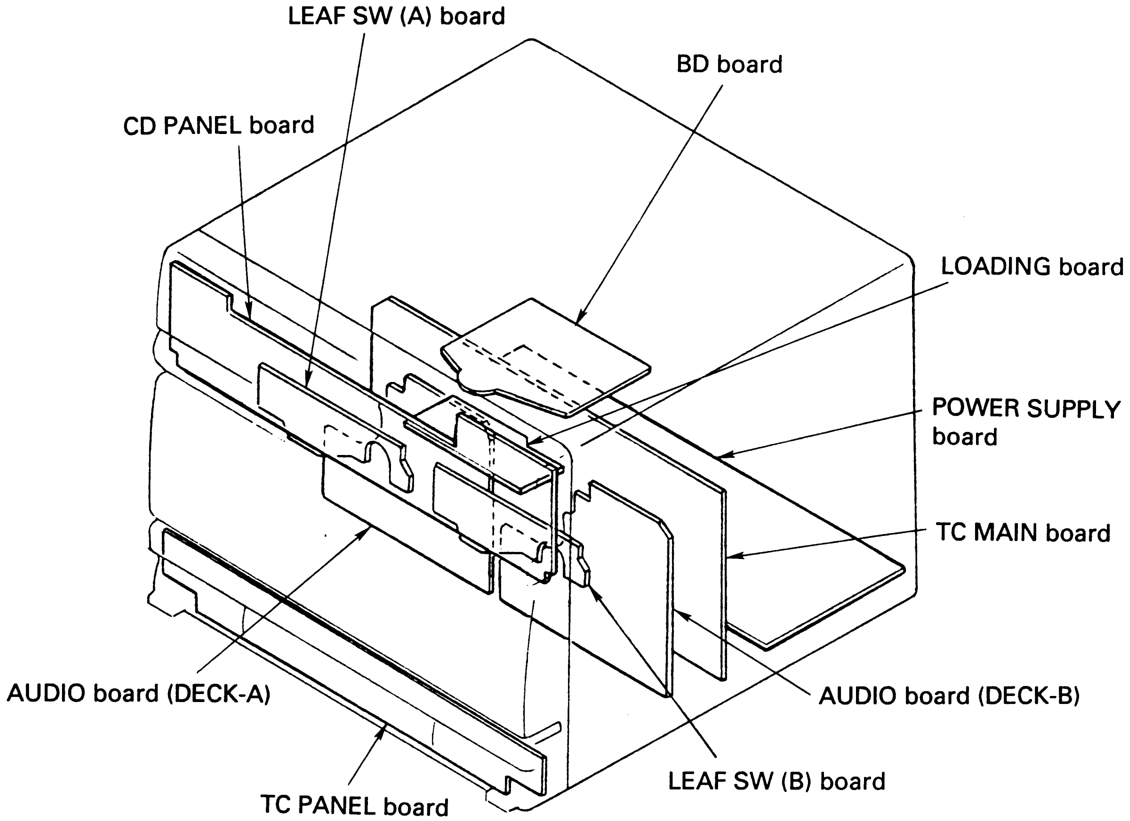


㉒ IC601 ㉒pin (XIN)
5.2Vp-p, 0.25μsec

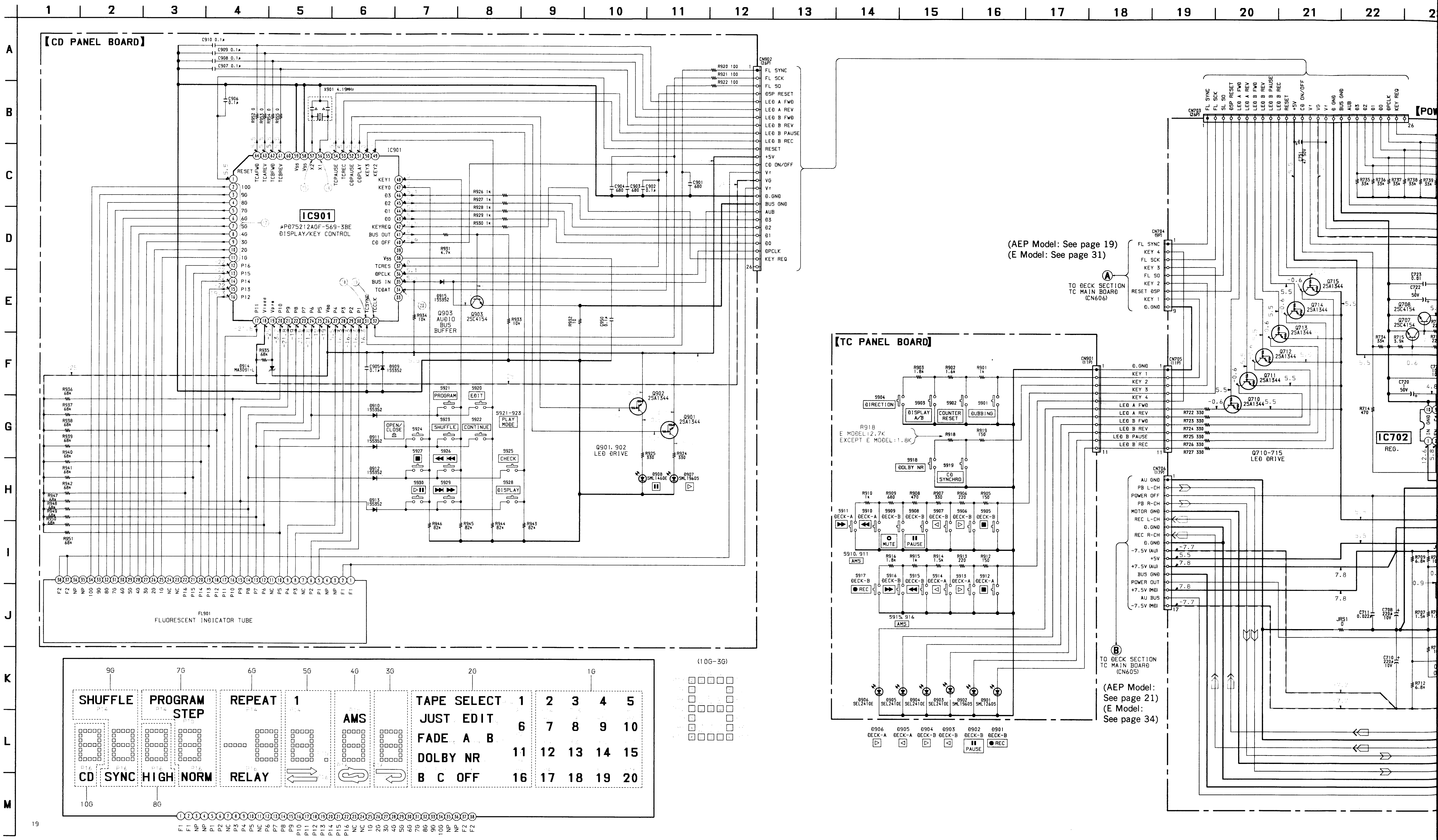


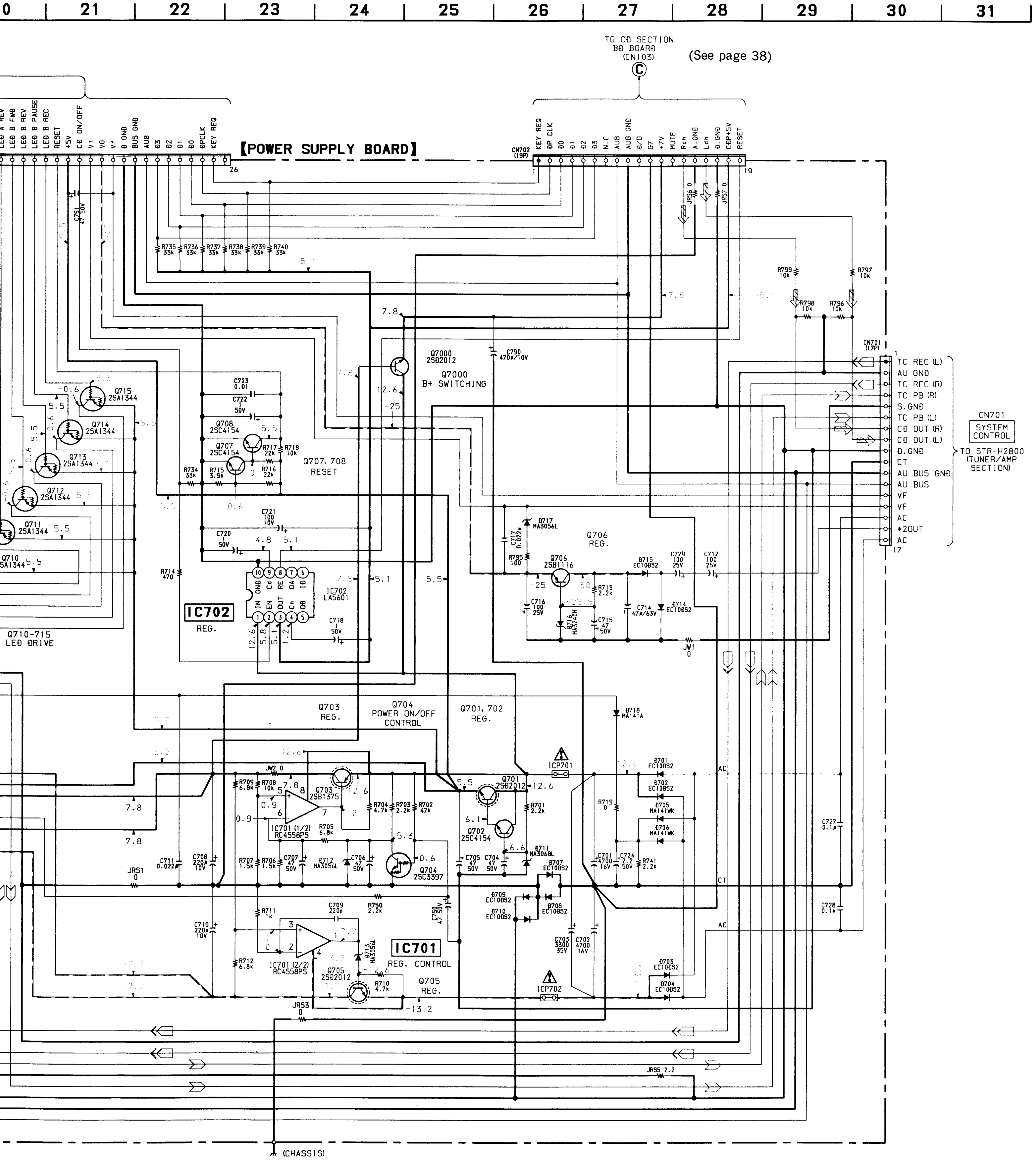
㉓ IC602 ⑩, ⑫pin
(S-REEL)
FF/REW mode
4.8Vp-p, 19msec

4-3. CIRCUIT BOARDS LOCATION


LEAF SW (A) board
BD board
CD PANEL board
LOADING board
POWER SUPPLY board
TC MAIN board
AUDIO board (DECK-A)
AUDIO board (DECK-B)
LEAF SW (B) board
TC PANEL board

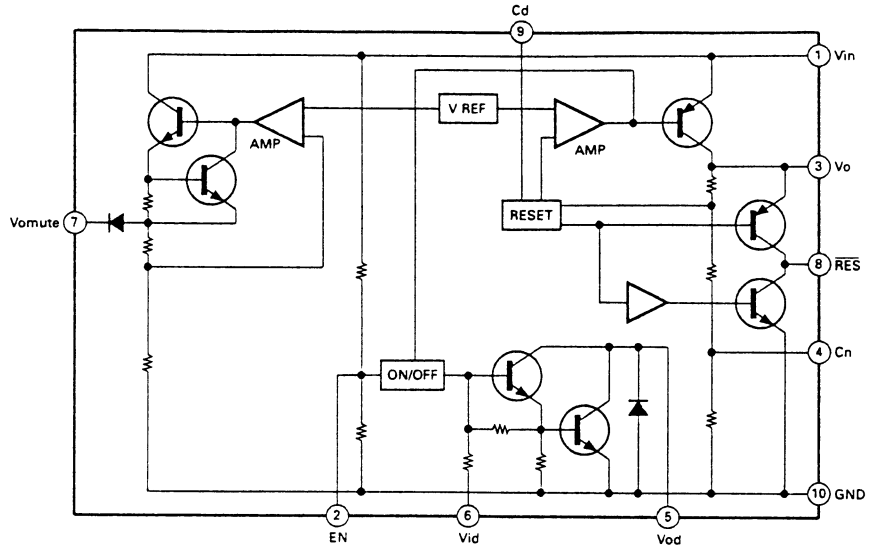
4-4. SCHEMATIC DIAGRAM (PANEL/POWER SUPPLY SECTION) • See page 8 for waveforms.


[CD PANEL BOARD]
IC901
µPD75212AGF-569-3BE
DISPLAY/KEY CONTROL
X901 4.19MHz
CN902 (26P)
FL SYNC
FL SCK
FL SO
DSP RESET
LED A FWD
LED A REV
LED B FWD
LED B REV
LED B PAUSE
LED B REC
RESET
+5V
CD ON/OFF
Vf
VG
D.GND
BUS GND
AUB
D3
D2
D1
D0
DPCLK
KEY REQ
Q903 AUDIO BUS BUFFER
Q903 2SC4154
Q902 2SA1344
Q901 2SA1344
Q901, 902 LED DRIVE
S921 PROGRAM
S920 EDIT
S921-923 PLAY MODE
S923 SHUFFLE
S922 CONTINUE
OPEN/CLOSE
S924
S927
S926
S925 CHECK
S930
S929
S928 DISPLAY
D908 SML1460E
D907 SML1960S
FL901 FLUORESCENT INDICATOR TUBE
SHUFFLE
PROGRAM STEP
REPEAT
AMS
TAPE SELECT
JUST EDIT
FADE A B
DOLBY NR
B C OFF
CD
SYNC
HIGH
NORM
RELAY
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
9G 7G 6G 5G 4G 3G 2G 1G 10G 8G
(10G-3G)
(AEP Model: See page 19)
(E Model: See page 31)
TO DECK SECTION TC MAIN BOARD (CN606)
CN704 (9P)
[TC PANEL BOARD]
CN901 (11P)
CN705 (11P)
S904 DIRECTION
S903 DISPLAY A/B
S902 COUNTER RESET
S901 DUBBING
R918
E MODEL: 2.7K
EXCEPT E MODEL: 1.8K
S918 DOLBY NR
S919 CD SYNCHRO
S911 DECK-A
S910 DECK-A
S909 DECK-B
S908 DECK-B
S907 DECK-B
S906 DECK-B
S905 DECK-B
MUTE
PAUSE
S910, 911 AMS
S917 DECK-B ● REC
S916 DECK-B
S915 DECK-B
S914 DECK-A
S913 DECK-A
S912 DECK-A
S915, 916 AMS
D906 SEL2410E
D905 SEL2410E
D904 SEL2410E
D903 SEL2410E
D902 SML1960S
D901 SML1260S
D906 DECK-A
D905 DECK-A
D904 DECK-B
D903 DECK-B
D902 DECK-B PAUSE
D901 DECK-B ● REC
TO DECK SECTION TC MAIN BOARD (CN605)
(AEP Model: See page 21)
(E Model: See page 34)
CN706 (17P)
AU GND
PB L-CH
POWER OFF
PB R-CH
MOTOR GND
REC L-CH
D.GND
REC R-CH
-7.5V (AU)
+5V
+7.5V (AU)
BUS GND
POWER OUT
+7.5V (MD)
AU BUS
-7.5V (MD)
CN703 (26P)
Q710-715 LED DRIVE
Q715 2SA1344
Q714 2SA1344
Q713 2SA1344
Q712 2SA1344
Q711 2SA1344
Q710 2SA1344
Q708 2SC4154
Q707 2SC4154
IC702 REG.
[POW


0
21
22
23
24
25
26
27
28
29
30
31
TO CD SECTION
BD BOARD
(CN103)
Ⓒ
(See page 38)
【POWER SUPPLY BOARD】
CN702 (19P)
KEY REQ
DP CLK
D0
D1
D2
D3
N.C
AUB
AUB GND
D/D
D7
+7V
MUTE
Rch
A.GND
Lch
D.GND
CDP+5V
RESET
LED B REC
RESET
+5V
CD ON/OFF
VF
VG
VF
D GND
BUS GND
AUB
Ø3
Ø2
Ø1
Ø0
ØPCLK
KEY REQ
R735 33k
R736 33k
R737 33k
R738 33k
R739 33k
R740 33k
R799 10k
R797 10k
R798 10k
R796 10k
Q7000 2SD2012
Q7000 B+ SWITCHING
C790 470μ/10V
Q715 2SA1344
Q714 2SA1344
Q713 2SA1344
Q712 2SA1344
Q711 2SA1344
Q710 2SA1344
Q710-715 LED DRIVE
C723 0.01
C722 1 50V
Q708 2SC4154
Q707 2SC4154
R717 22k
R718 10k
Q707, 708 RESET
R734 33k
R715 3.9k
R716 22k
C721 100 10V
C720 1 50V
R714 470
IC702 REG.
IC702 LA5601
C718 1 50V
GND
IN
Cd
OUT
RE
Cn
OA
OB
IO
CN701 (17P)
TC REC (L)
AU GND
TC REC (R)
TC PB (R)
S.GND
TC PB (L)
CD OUT (R)
CD OUT (L)
D.GND
CT
AU BUS GND
AU BUS
VF
VF
AC
*2OUT
AC
CN701 SYSTEM CONTROL
TO STR-H2800 (TUNER/AMP SECTION)
D717 MA3056L
C717 0.022μ
Q706 REG.
R795 100
Q706 2SB1116
D715 EC10052
C729 100 25V
C712 100 25V
C716 100 25V
R713 2.2k
D716 MA3240H
C714 47μ/63V
D714 EC10052
C715 47 50V
JW1 0
Q703 REG.
Q704 POWER ON/OFF CONTROL
Q701, 702 REG.
D718 MA141A
ICP701
D701 EC10052
D702 EC10052
D705 MA141WK
D706 MA141WK
R719 0
C727 0.1μ
C728 0.1μ
AC
CT
R709 6.8k
R708 10k
JW2 0
Q703 2SB1375
IC701 (1/2) RC4558PS
R705 6.8k
R704 4.7k
R703 2.2k
R702 47k
Q701 2SD2012
R701 2.2k
Q702 2SC4154
D711 MA3068L
R707 1.5k
R706 1.5k
C707 47 50V
D712 MA3056L
C706 47 50V
Q704 2SC3397
C705 47 50V
C704 47 50V
D707 EC10052
C701 4700 16V
C724 2.2 50V
R741 2.2k
C711 0.022μ
C708 220μ 10V
JRS1 0
D709 EC10052
D708 EC10052
D710 EC10052
C709 220p
R750 2.2k
C750 47 50V
R711 1k
C710 220μ 10V
R712 6.8k
IC701 (2/2) RC4558PS
D713 MA3056L
Q705 2SD2012
R710 4.7k
IC701 REG. CONTROL
Q705 REG.
C703 3300 35V
C702 4700 16V
ICP702
D703 EC10052
D704 EC10052
JRS3 0
JRS5 2.2
(CHASSIS)
7.8
12.6
-25
5.5
5.1
-13.2

4-5. IC BLOCK DIAGRAM (PANEL/POWER SUPPLY SECTION)

IC702 LA5601


Cd
⑨
① Vin
③ Vo
⑧ RES
④ Cn
⑩ GND
Vomute ⑦
AMP
V REF
AMP
RESET
ON/OFF
② EN
⑥ Vid
⑤ Vod

Notes on schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : Internal component

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ━━ : B + Line
- ▪▪▪▪ : B − Line
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : STOP
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- **Signal path**
  - ⇨ : CD
  - ⇨ : PLAYBACK
  - ⇨ : RECORD
- **Saudi Arabia, Australian, Tourist models are identical to E model.**
- UK, East European, German, Italian models are identical to AEP model.

4-6. PRINTED WIRING BOARDS (PANEL/POWER SUPPLY SECTION) • See page 7 for semiconductor lead layouts and 10 for cir

● SEMICONDUCTOR LOCATION

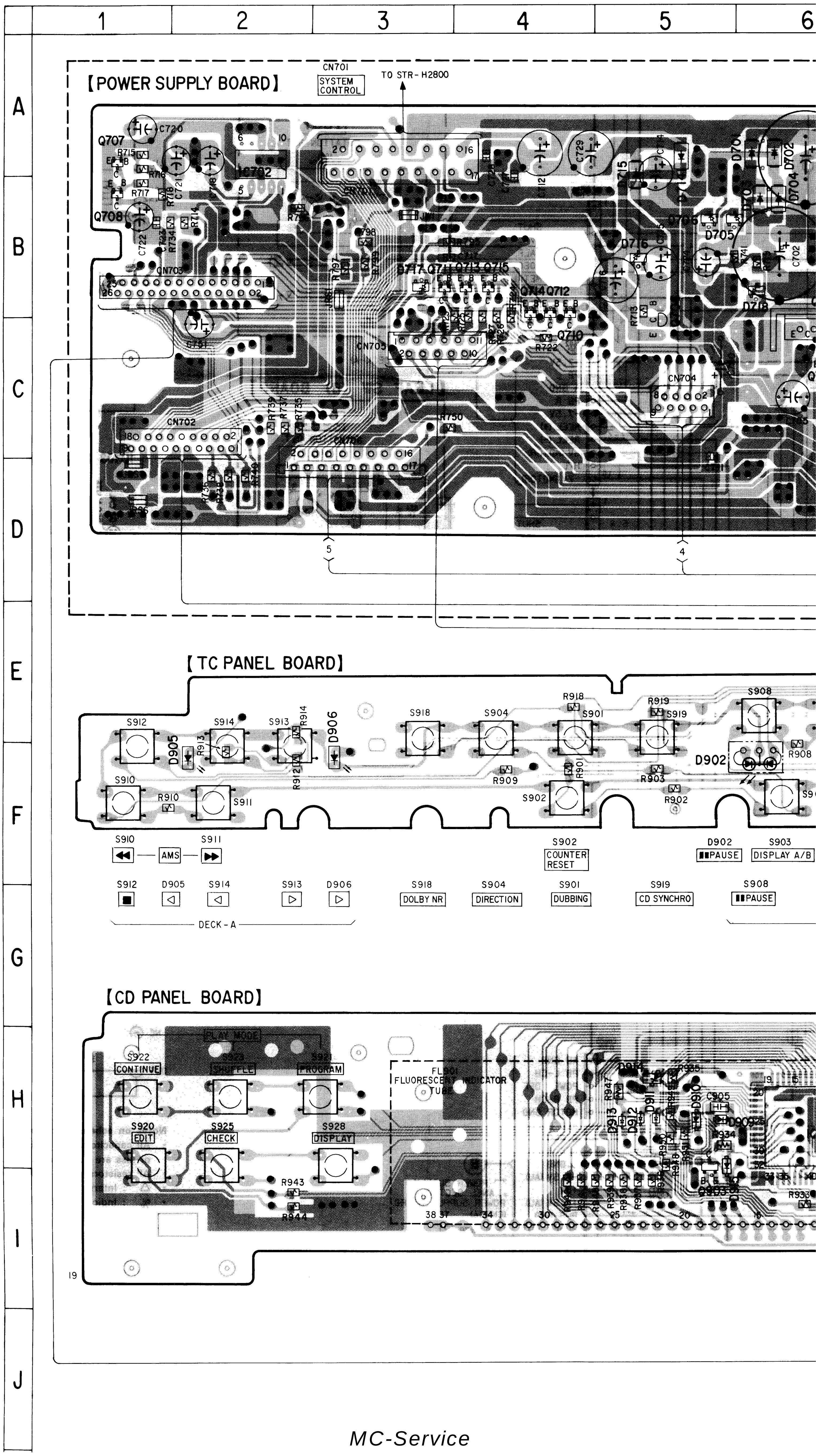
(PANEL/POWER SUPPLY SECTION)

— AEP, UK, East European, German, Italian Model —

Ref. No.	Location	Ref. No.	Location
D701	A-15	D912	H-5
D702	A-15	D913	H-5
D703	B-15	D914	H-5
D704	B-15	D915	H-6
D705	B-15		
		IC701	D-17
D706	B-14	IC702	A-11
D707	B-17	IC901	H-6
D708	B-17		
D709	B-17	Q701	C-15
D710	B-17	Q702	C-15
		Q703	C-17
D711	C-16	Q704	D-18
D712	D-17	Q705	B-17
D713	D-16		
D714	A-14	Q706	C-14
D715	A-14	Q707	A-10
		Q708	B-10
D716	B-14	Q710	B-14
D717	B-12	Q711	B-13
D718	B-15		
D901	F-7	Q712	B-13
		Q713	B-13
D902	F-6	Q714	B-13
D903	F-8	Q715	B-13
D904	F-9	Q901	H-8
D905	F-2		
D906	F-3	Q902	H-8
		Q903	H-5
D907	H-8	Q7000	C-16
D908	H-8		
D909	H-5		
D910	H-5		
D911	H-5		

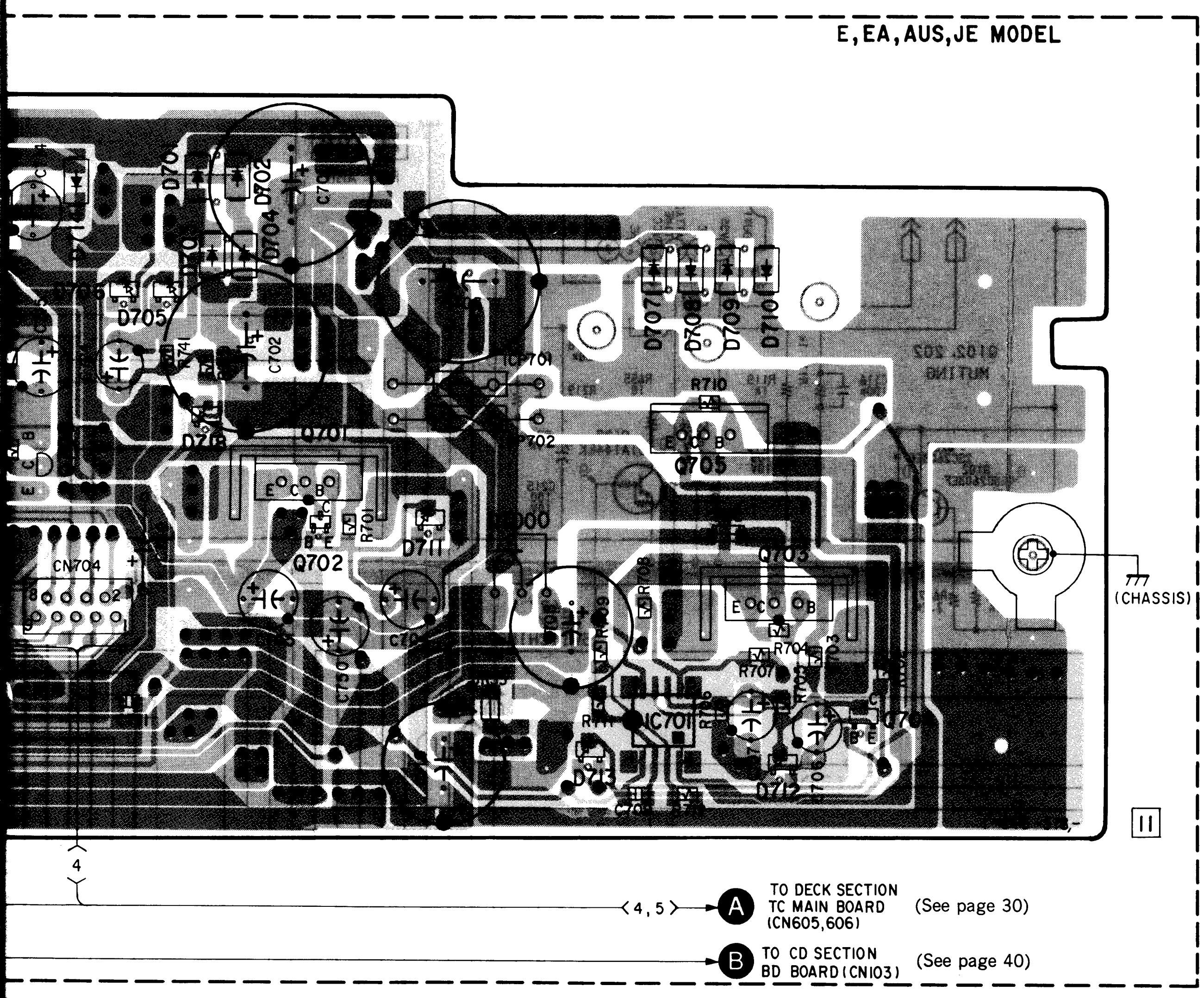
— E, Saudi Arabia, Australian, Tourist Model —

Ref. No.	Location	Ref. No.	Location
D701	A-6	D912	H-5
D702	A-6	D913	H-5
D703	B-6	D914	H-5
D704	B-6	D915	H-6
D705	B-6		
		IC701	D-8
D706	B-5	IC702	A-2
D707	B-8	IC901	H-6
D708	B-8		
D709	B-8	Q701	C-6
D710	B-8	Q702	C-6
		Q703	C-8
D711	C-7	Q704	D-8
D712	D-8	Q705	B-8
D713	D-7		
D714	A-5	Q706	C-5
D715	A-5	Q707	A-1
		Q708	B-1
D716	B-5	Q710	B-4
D717	B-3	Q711	B-3
D718	B-6		
D901	F-7	Q712	B-4
		Q713	B-4
D902	F-6	Q714	B-4
D903	F-8	Q715	B-4
D904	F-9	Q901	H-8
D905	F-2		
D906	F-3	Q902	H-8
		Q903	H-5
D907	H-8	Q7000	C-7
D908	H-8		
D909	H-5		
D910	H-5		
D911	H-5		


1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
[POWER SUPPLY BOARD]
CN701
SYSTEM CONTROL
TO STR-H2800
Q707
Q708
C720
R715
R716
R717
C721
C722
R718
R714
R734
IC702
CN703
C751
CN702
CN705
CN704
CN706
R739
R737
R735
R750
R722
Q717
Q711
Q713
Q715
Q714
Q712
Q710
Q706
D705
D716
D718
D704
D702
C729
C702
5
4
[TC PANEL BOARD]
S912
S914
S913
R914
D906
D905
R913
R912
S918
S904
R918
S901
R919
S919
S908
D902
R908
S910
R910
S911
R909
R901
S902
R903
R902
S910
AMS
S911
S902
COUNTER RESET
D902
PAUSE
S903
DISPLAY A/B
S912
D905
S914
S913
D906
S918
DOLBY NR
S904
DIRECTION
S901
DUBBING
S919
CD SYNCHRO
S908
PAUSE
DECK-A
[CD PANEL BOARD]
PLAY MODE
S922
CONTINUE
S923
SHUFFLE
S927
PROGRAM
S920
EDIT
S925
CHECK
S928
DISPLAY
FL901
FLUORESCENT INDICATOR TUBE
R943
R944
R947
D913
D912
D911
D910
C905
R934
R933
38
34
30
25
20
19

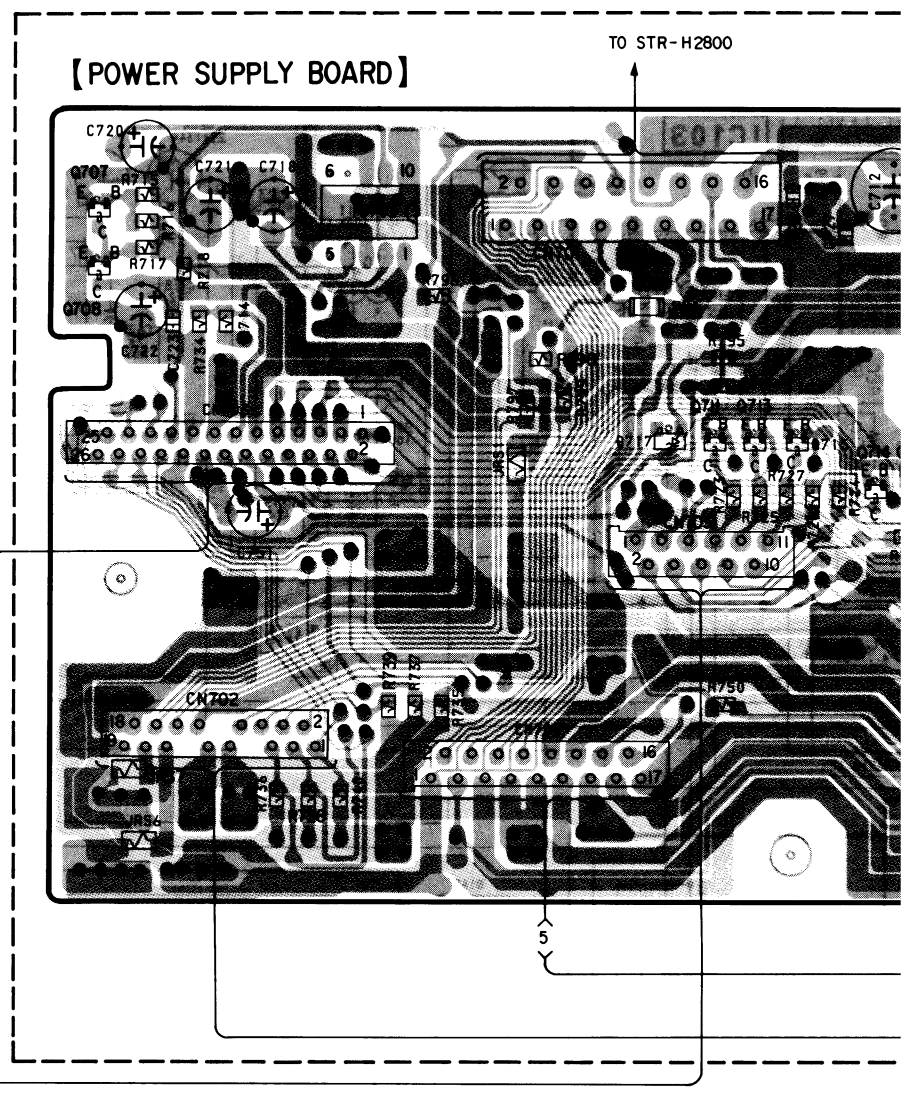
or lead layouts and 10 for circuit boards location.

5	6	7	8	9	10	11	12	13


E,EA,AUS,JE MODEL
D702
D704
D705
D707
D708
D709
D710
D711
D712
D713
C702
IC701
Q701
Q702
Q703
Q704
Q705
R701
R704
R707
R710
R711
CN704
(CHASSIS)
4
(4,5)
A
B

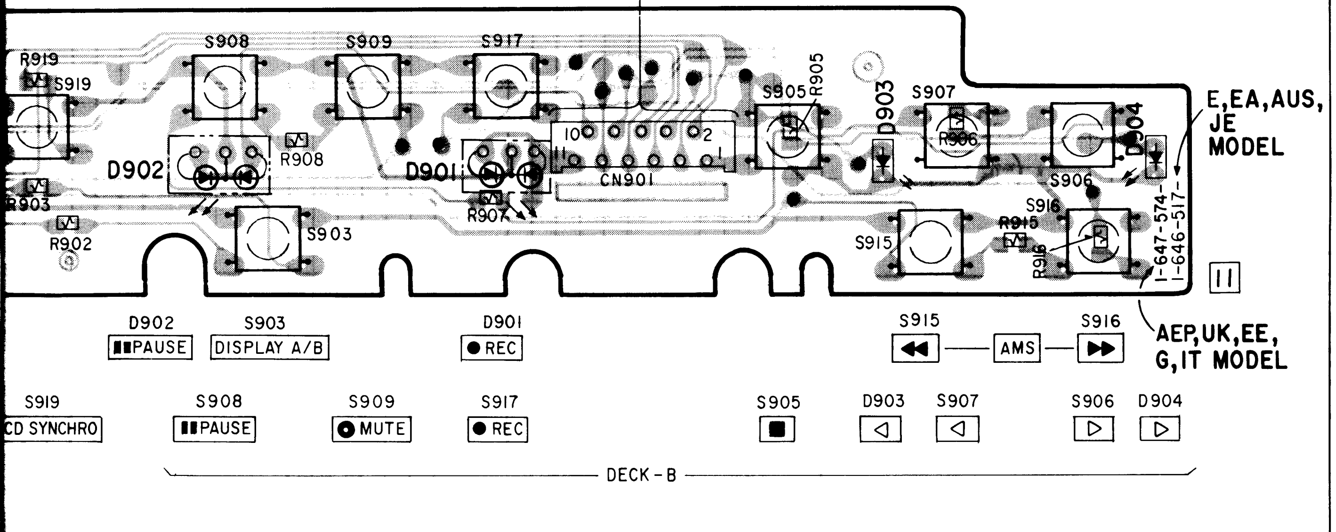
TO DECK SECTION TC MAIN BOARD (CN605,606) (See page 30)

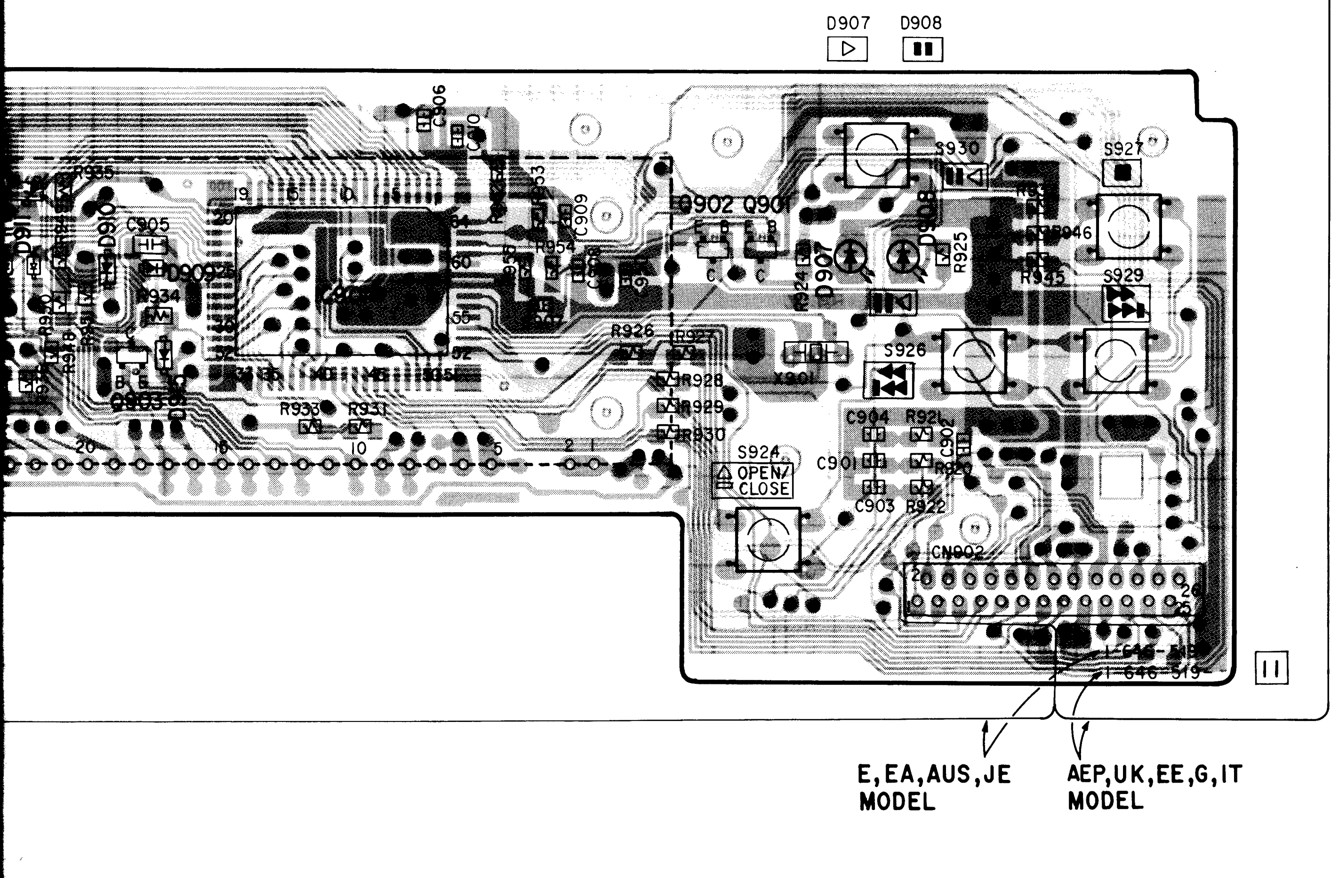
TO CD SECTION BD BOARD (CN103) (See page 40)


TO STR-H2800
【POWER SUPPLY BOARD】
C720
C721
C718
Q707
Q708
R715
R717
R750
CN702
16
17
18
5

E,EA,AUS,JE MODEL

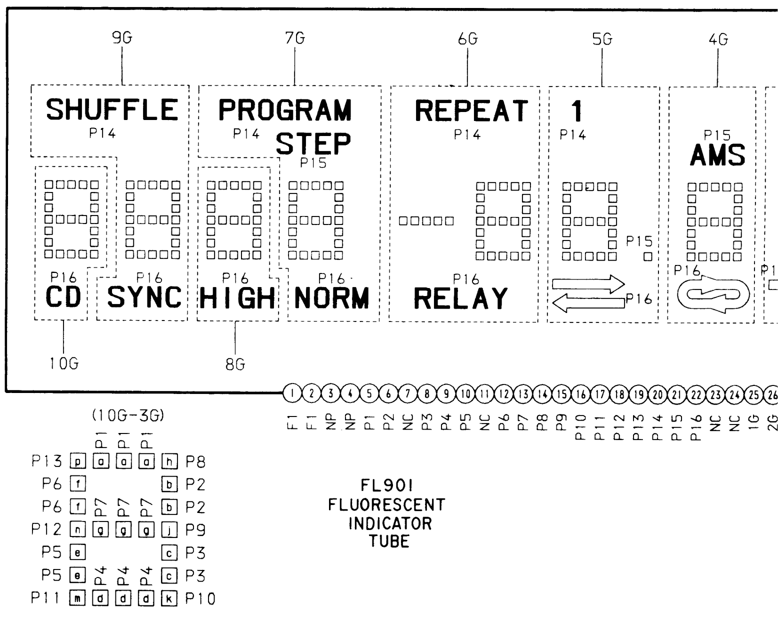
AEP,UK,EE,G,IT MODEL


S908
S909
S917
S919
R919
R903
R902
D902
R908
S903
D901
R907
CN901
S905
R905
D903
S907
R906
S906
D904
S915
R915
S916
R916
1-647-574-
1-646-517-
E,EA,AUS, JE MODEL
D902 ▮▮PAUSE
S903 DISPLAY A/B
D901 ● REC
S915 ◀◀ AMS ▶▶ S916
AEP,UK,EE, G,IT MODEL
S919 CD SYNCHRO
S908 ▮▮PAUSE
S909 ◉ MUTE
S917 ● REC
S905 ■
D903 ◁
S907 ◁
S906 ▷
D904 ▷
DECK-B


D907 ▷
D908 ▮▮
C906
C905
C909
Q902
Q901
S930
S927
R946
R945
S929
R926
R927
R928
R929
R930
R933
R931
S926
X901
D907
D908
R925
S924 OPEN/CLOSE
C904
C901
C903
R921
R922
CN902
1-646-519-
20
16
10
5
2
1
26

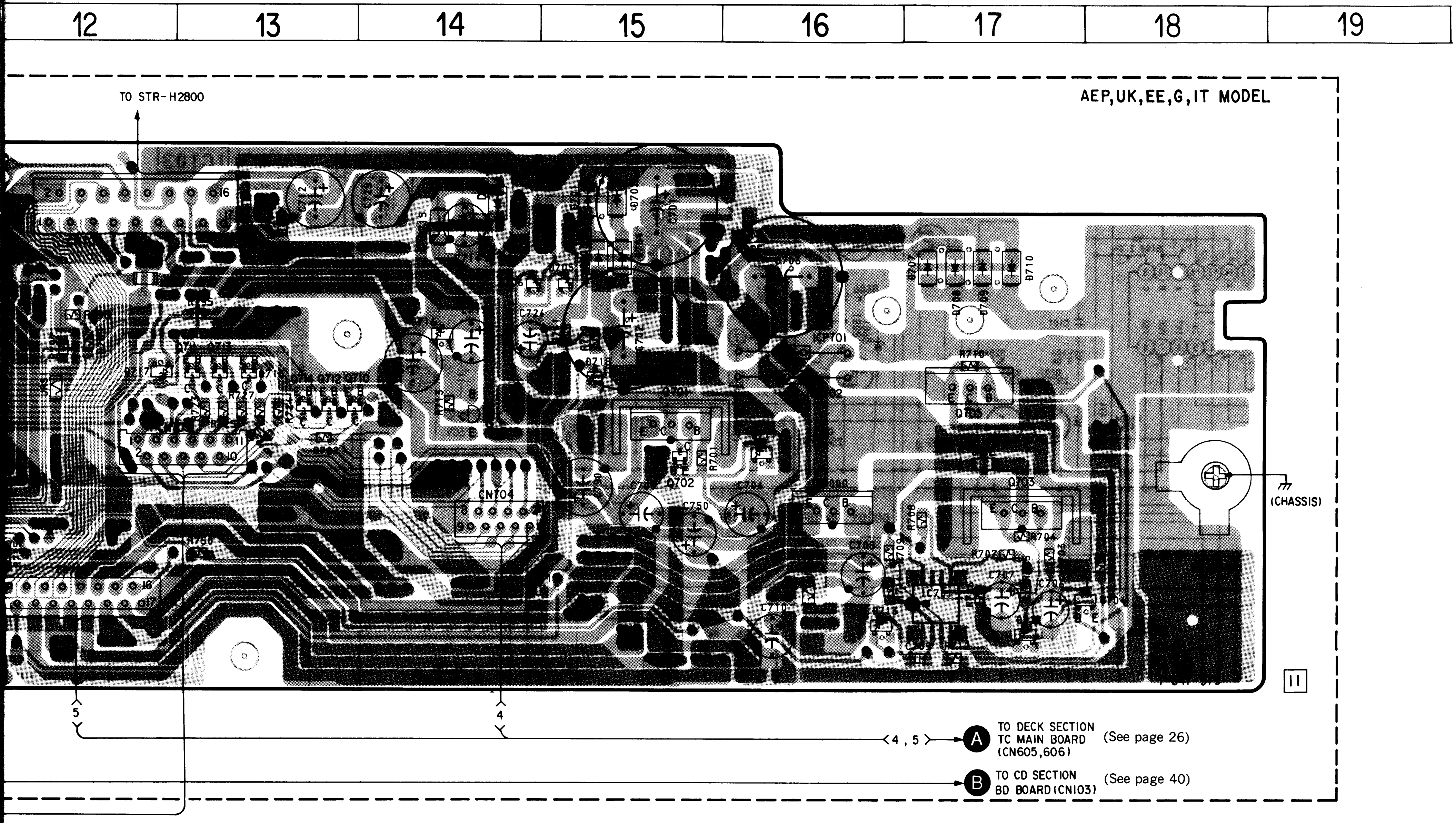
E,EA,AUS,JE MODEL

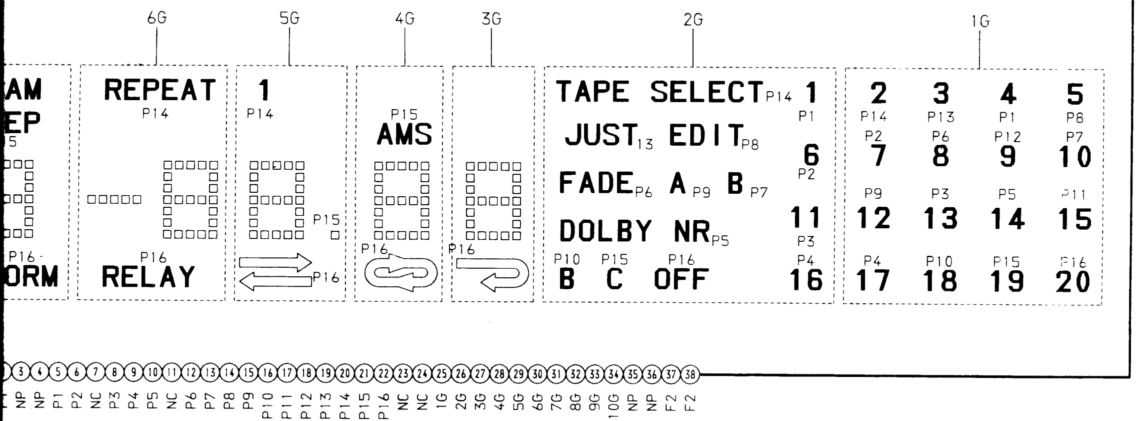
AEP,UK,EE,G,IT MODEL


9G
7G
6G
5G
4G
SHUFFLE
PROGRAM STEP
REPEAT
1
AMS
P14
P15
P16
CD
SYNC
HIGH
NORM
RELAY
10G
8G
(10G-3G)
P13 P8
P6 P2
P6 P2
P12 P9
P5 P3
P5 P3
P11 P10
P1
P7
P4
F1 F1 NP NP P1 P2 NC P3 P4 P5 NC P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 NC NC 1G 2G

FL901 FLUORESCENT INDICATOR TUBE

MC-Service


12
13
14
15
16
17
18
19
TO STR-H2800
AEP,UK,EE,G,IT MODEL
CN704
Q701
Q702
Q703
Q705
IC701
ICP701
C750
(CHASSIS)
11
5
4
4 , 5
A
TO DECK SECTION
TC MAIN BOARD
(CN605,606)
(See page 26)
B
TO CD SECTION
BD BOARD (CN103)
(See page 40)


6G
5G
4G
3G
2G
1G
AM
EP
ORM
REPEAT
P14
RELAY
P16
1
P14
P15
AMS
P15
P16
TAPE SELECT P14
1
P1
JUST P13 EDIT P8
6
P2
FADE P6 A P9 B P7
11
P3
DOLBY NR P5
16
P4
B C OFF
P10 P15 P16
2 3 4 5
P14 P13 P1 P8
7 8 9 10
P2 P6 P12 P7
12 13 14 15
P9 P3 P5 P11
17 18 19 20
P4 P10 P15 P16
NP NP P1 P2 NC P3 P4 P5 NC P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 NC NC 1G 2G 3G 4G 5G 6G 7G 8G 9G 10G NP NP F2 F2

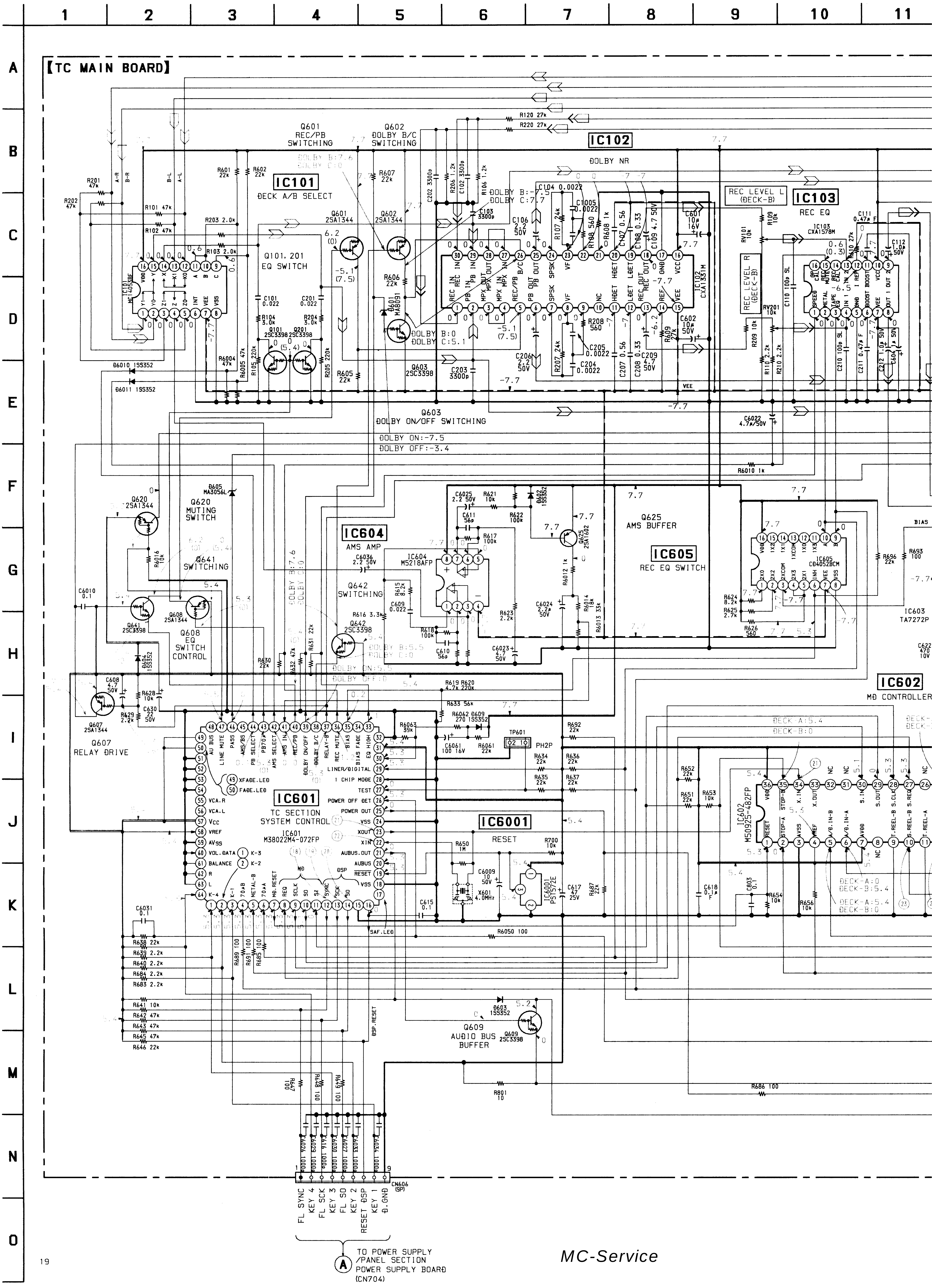
FL901
FLUORESCENT
INDICATOR
TUBE

Notes on printed wiring boards:

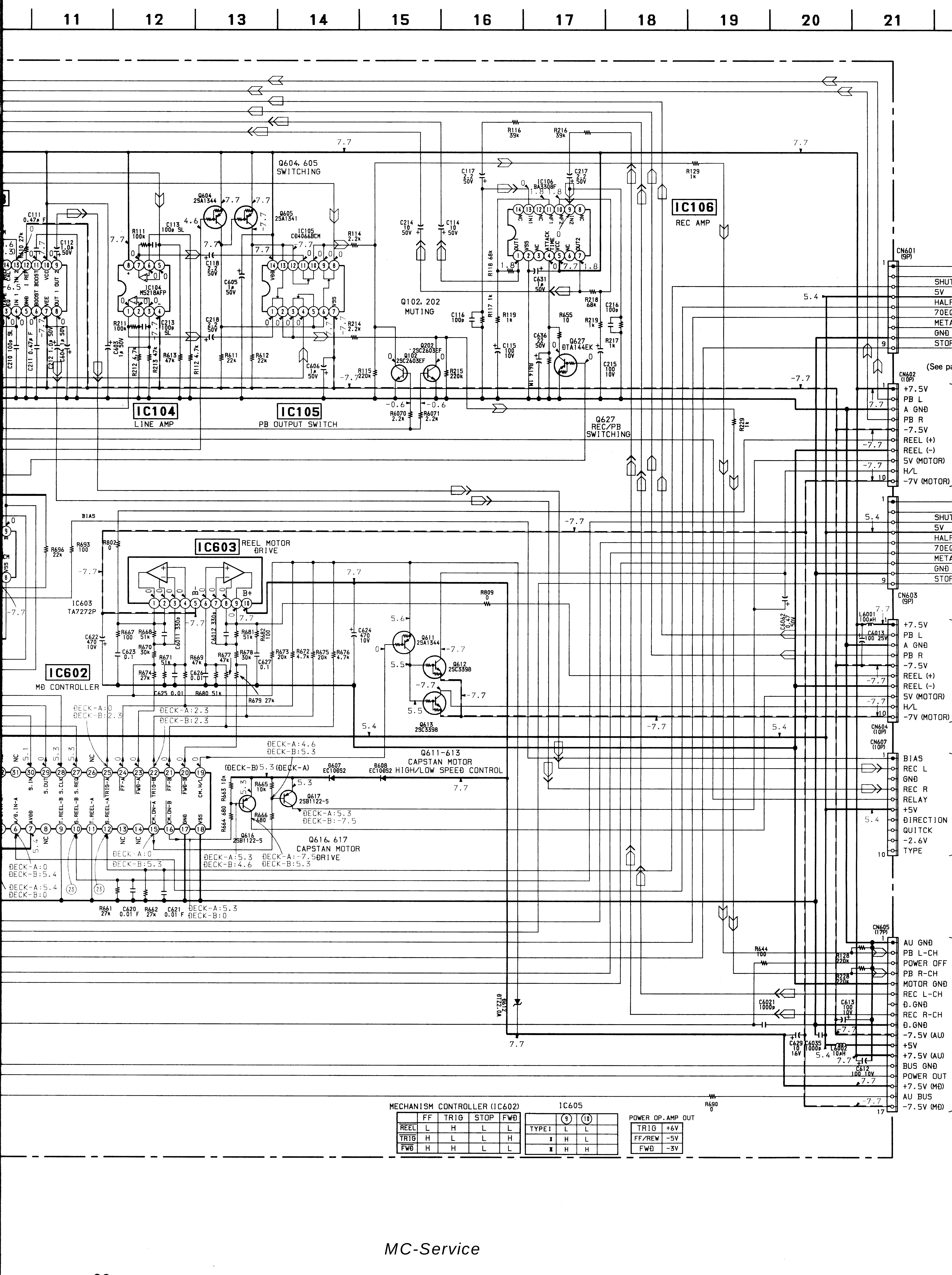
- o——— : Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- ● : Through hole
- ▨ : Pattern from the side which enables seeing
- ☐ : Pattern of the rear side

- Saudi Arabia, Australian, Tourist models are identical to E model.
- UK, East European, German, Italian models are identical to AEP model.

4-7. SCHEMATIC DIAGRAM (DECK SECTION) – AEP, UK, East European, German, Italian Model – • See page 8 for waveforms.



【TC MAIN BOARD】
IC101 DECK A/B SELECT
IC101 MC14052BF
Q101, 201 EQ SWITCH
Q101 2SC3398
Q201 2SC3398
Q601 REC/PB SWITCHING
Q601 2SA1344
Q602 DOLBY B/C SWITCHING
Q602 2SA1344
D601 MA8091
Q603 DOLBY ON/OFF SWITCHING
Q603 2SC3398
DOLBY ON:-7.5
DOLBY OFF:-3.4
DOLBY B:-7.5
DOLBY C:7.7
DOLBY B:0
DOLBY C:5.1
IC102 DOLBY NR
IC102 CXA1331M
REC LEVEL L (DECK-B)
REC LEVEL R (DECK-B)
RV101
RV201
IC103 REC EQ
IC103 CXA1578M
D605 MA3056L
Q620 MUTING SWITCH
Q620 2SA1344
Q641 SWITCHING
Q641 2SC3398
Q608 EQ SWITCH CONTROL
Q608 2SA1344
Q607 RELAY DRIVE
Q607 2SA1344
IC604 AMS AMP
IC604 M5218AFP
Q642 SWITCHING
Q642 2SC3398
Q625 AMS BUFFER
Q625 2SA1602
IC605 REC EQ SWITCH
IC605 CD4052BCM
IC603 TA7272P
IC601 TC SECTION SYSTEM CONTROL
IC601 M38022M4-072FP
IC6001 RESET
IC6001 PST572E
X601 4.0MHz
TP601
PH2P
IC602 MD CONTROLLER
IC602 M50925-482FP
DECK-A:5.4
DECK-B:0
DECK-A:0
DECK-B:5.4
Q609 AUDIO BUS BUFFER
Q609 2SC3398
D603 1SS352
CN606 (9P)
FL SYNC
KEY 4
FL SCK
KEY 3
FL SO
KEY 2
RESET DSP
KEY 1
D.GND
Ⓐ TO POWER SUPPLY /PANEL SECTION POWER SUPPLY BOARD (CN704)
(See page 12)


11
12
13
14
15
16
17
18
19
20
21
Q604, 605 SWITCHING
Q604 2SA1344
Q605 2SA1341
IC104 M5218AFP
IC104 LINE AMP
IC105 CD4066BCM
IC105 PB OUTPUT SWITCH
Q102, 202 MUTING
Q102 2SC2603EF
Q202 2SC2603EF
IC106 BA3308F
IC106 REC AMP
Q627 DTA144EK
Q627 REC/PB SWITCHING
CN601 (9P)
SHUT
5V
HALF
70EQ
META
GND
STOP
(See pa
CN602 (10P)
+7.5V
PB L
A GND
PB R
-7.5V
REEL (+)
REEL (-)
5V (MOTOR)
H/L
-7V (MOTOR)
CN603 (9P)
CN604 (10P)
CN607 (10P)
BIAS
REC L
GND
REC R
RELAY
+5V
DIRECTION
QUITCK
-2.6V
TYPE
IC603 REEL MOTOR DRIVE
IC603 TA7272P
IC602 MD CONTROLLER
Q611 2SA1344
Q612 2SC3398
Q613 2SC3398
Q611-613 CAPSTAN MOTOR HIGH/LOW SPEED CONTROL
Q616, 617 CAPSTAN MOTOR DRIVE
Q616 2SB1122-S
Q617 2SB1122-S
D607 EC10QS2
D608 EC10QS2
DECK-A:0 DECK-B:2.3
DECK-A:2.3
DECK-B:2.3
DECK-A:4.6 DECK-B:5.3
DECK-A:5.3 DECK-B:-7.5
DECK-A:5.3 DECK-B:4.6
DECK-A:-7.5 DECK-B:5.3
DECK-A:0 DECK-B:5.3
DECK-A:0 DECK-B:5.4
DECK-A:5.4 DECK-B:0
DECK-A:5.3 DECK-B:0
CN605 (17P)
AU GND
PB L-CH
POWER OFF
PB R-CH
MOTOR GND
REC L-CH
D.GND
REC R-CH
D.GND
-7.5V (AU)
+5V
+7.5V (AU)
BUS GND
POWER OUT
+7.5V (MD)
AU BUS
-7.5V (MD)
BIAS
7.7
-7.7
5.4

MECHANISM CONTROLLER (IC602)

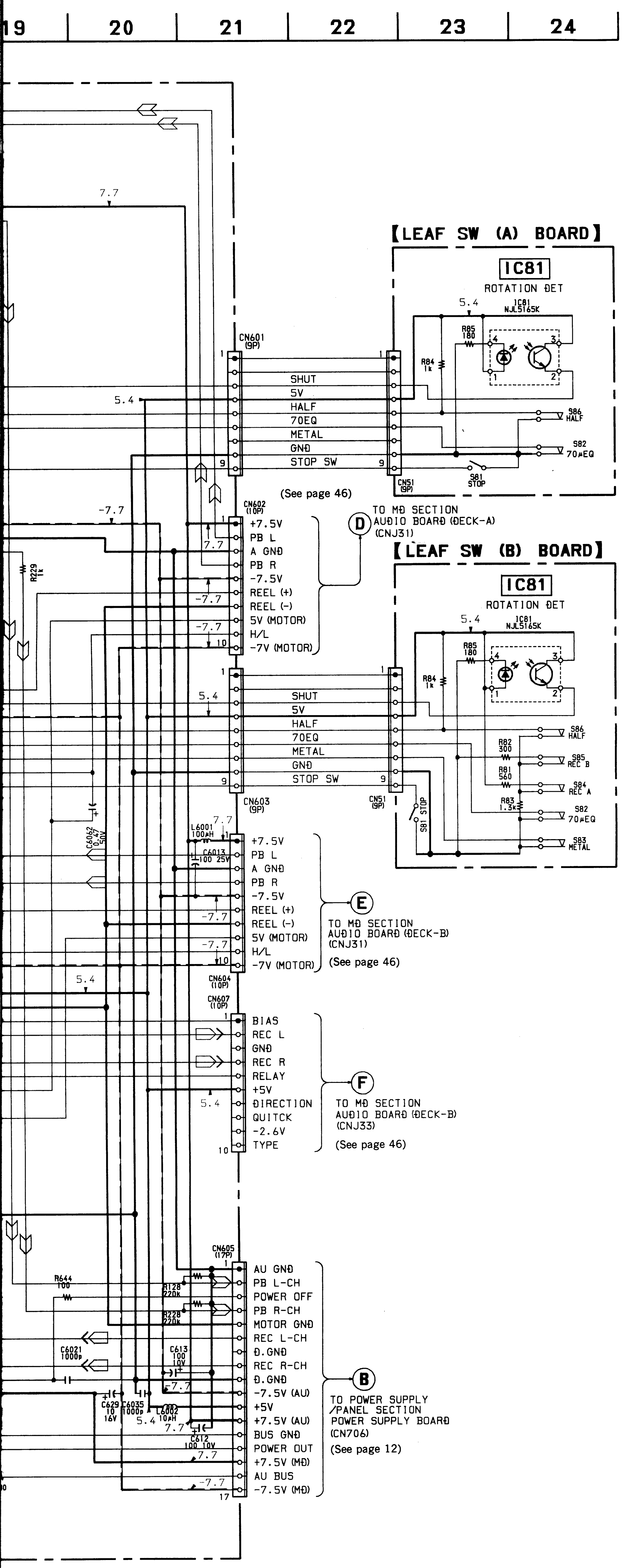
	FF	TRIG	STOP	FWD
REEL	L	H	L	L
TRIG	H	L	L	H
FWD	H	H	L	L

IC605

	⑨	⑩	
TYPE I	L	L	
II	H	L	
III	H	H	

POWER OP.AMP OUT

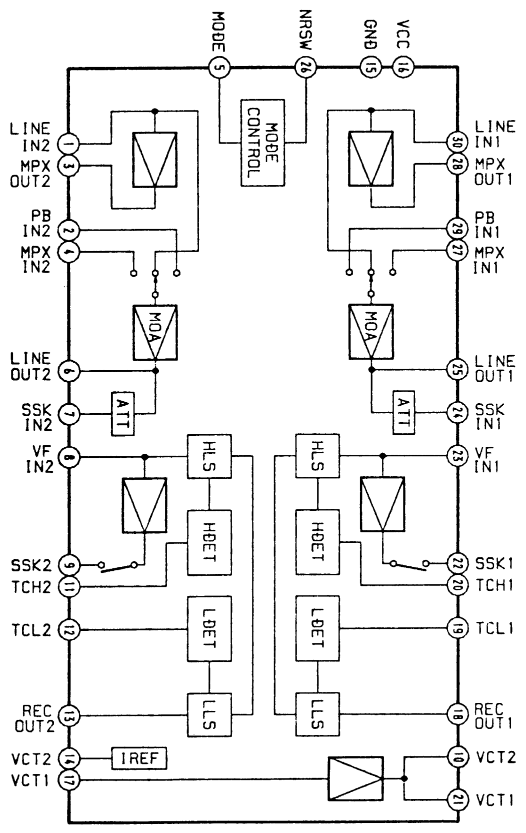
TRIG	+6V
FF/REW	-5V
FWD	-3V


19
20
21
22
23
24
[LEAF SW (A) BOARD]
IC81
ROTATION DET
IC81 NJL5165K
R85 180
R84 1k
S86 HALF
S82 70μEQ
S81 STOP
CN51 (9P)
CN601 (9P)
SHUT
5V
HALF
70EQ
METAL
GND
STOP SW
(See page 46)
CN602 (10P)
+7.5V
PB L
A GND
PB R
-7.5V
REEL (+)
REEL (-)
5V (MOTOR)
H/L
-7V (MOTOR)
D
TO MD SECTION
AUDIO BOARD (DECK-A)
(CNJ31)
[LEAF SW (B) BOARD]
IC81
ROTATION DET
R82 300
R81 560
R83 1.3k
S85 REC B
S84 REC A
S83 METAL
S81 STOP
CN603 (9P)
E
TO MD SECTION
AUDIO BOARD (DECK-B)
(CNJ31)
(See page 46)
CN604 (10P)
CN607 (10P)
BIAS
REC L
GND
REC R
RELAY
+5V
DIRECTION
QUITCK
-2.6V
TYPE
F
TO MD SECTION
AUDIO BOARD (DECK-B)
(CNJ33)
(See page 46)
CN605 (17P)
AU GND
PB L-CH
POWER OFF
PB R-CH
MOTOR GND
REC L-CH
D.GND
REC R-CH
D.GND
-7.5V (AU)
+5V
+7.5V (AU)
BUS GND
POWER OUT
+7.5V (MD)
AU BUS
-7.5V (MD)
B
TO POWER SUPPLY /PANEL SECTION
POWER SUPPLY BOARD
(CN706)
(See page 12)
R229 1k
C6062 0.47 50V
L6001 100μH
C6013 100 25V
R644 100
R128 220k
R228 220k
C6021 1000p
C613 100 10V
C629 10 16V
C6035 1000p
L6002 10μH
C612 100 10V
7.7
5.4
-7.7

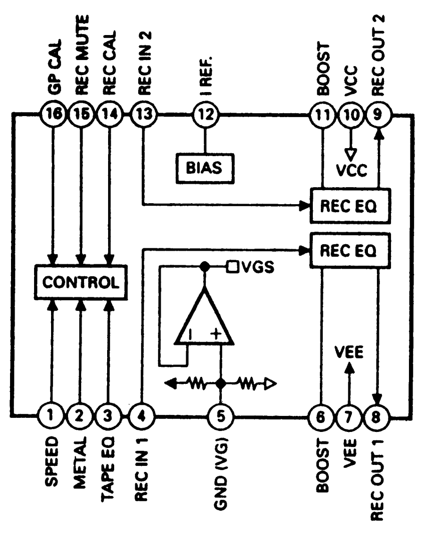
4-8. IC BLOCK DIAGRAM (DECK SECTION)

— AEP, UK, East European, German, —
Italian Model

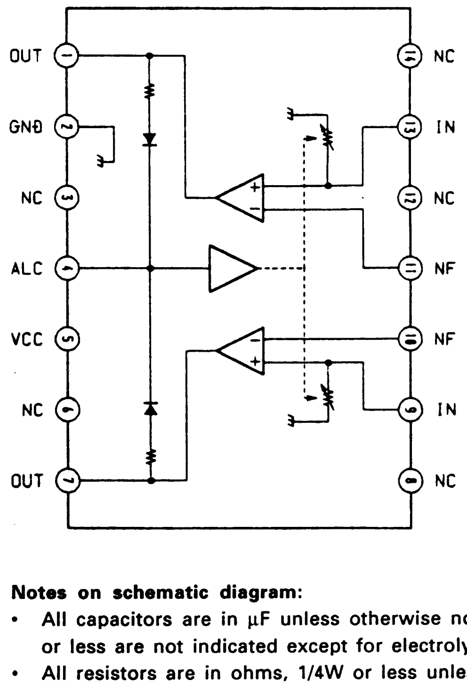
IC102 CXA1331M


MODE 5
NRSW 26
GND 15
VCC 16
LINE IN2 1
MPX OUT2 3
PB IN2 2
MPX IN2 4
LINE OUT2 6
SSK IN2 7
VF IN2 8
SSK2 9
TCH2 11
TCL2 12
REC OUT2 13
VCT2 14
VCT1 17
MODE CONTROL
MOA
ATT
HLS
HDET
LDET
LLS
IREF
LINE IN1 30
MPX OUT1 28
PB IN1 29
MPX IN1 27
LINE OUT1 25
SSK IN1 24
VF IN1 23
SSK1 22
TCH1 20
TCL1 19
REC OUT1 18
VCT2 10
VCT1 21

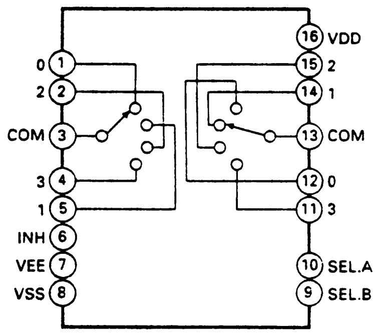
IC103 CXA1578M


GP CAL 16
REC MUTE 15
REC CAL 14
REC IN 2 13
I REF. 12
BOOST 11
VCC 10
REC OUT 2 9
BIAS
VCC
REC EQ
REC EQ
CONTROL
VGS
VEE
SPEED 1
METAL 2
TAPE EQ 3
REC IN 1 4
GND (VG) 5
BOOST 6
VEE 7
REC OUT 1 8

IC106 BA3308F


OUT 1
GND 2
NC 3
ALC 4
VCC 5
NC 6
OUT 7
NC 14
IN 13
NC 12
NF 11
NF 10
IN 9
NC 8

IC605 CD4052BCM


0 1
2 2
COM 3
3 4
1 5
INH 6
VEE 7
VSS 8
VDD 16
2 15
1 14
COM 13
0 12
3 11
SEL.A 10
SEL.B 9

Notes on schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : Internal component.
- % : Indicate permissible margin.
- ━━ : B+ Line.
- ╍╍ : B− Line.
- ▭ : Adjustment for repair.
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : PLAY
  ( ) : RECORD
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  ⊳ : PLAYBACK (DECK-A)
  ▷ : PLAYBACK (DECK-B)
  ⇨ : RECORD (DECK-B)

MC-Service

4-9. PRINTED WIRING BOARDS

(DECK SECTION)

— AEP, UK, East European, German, —
Italian Model

- See page 7 for semiconductor lead layouts and 10 for circuit boards location.

● SEMICONDUCTOR LOCATION

(DECK SECTION)

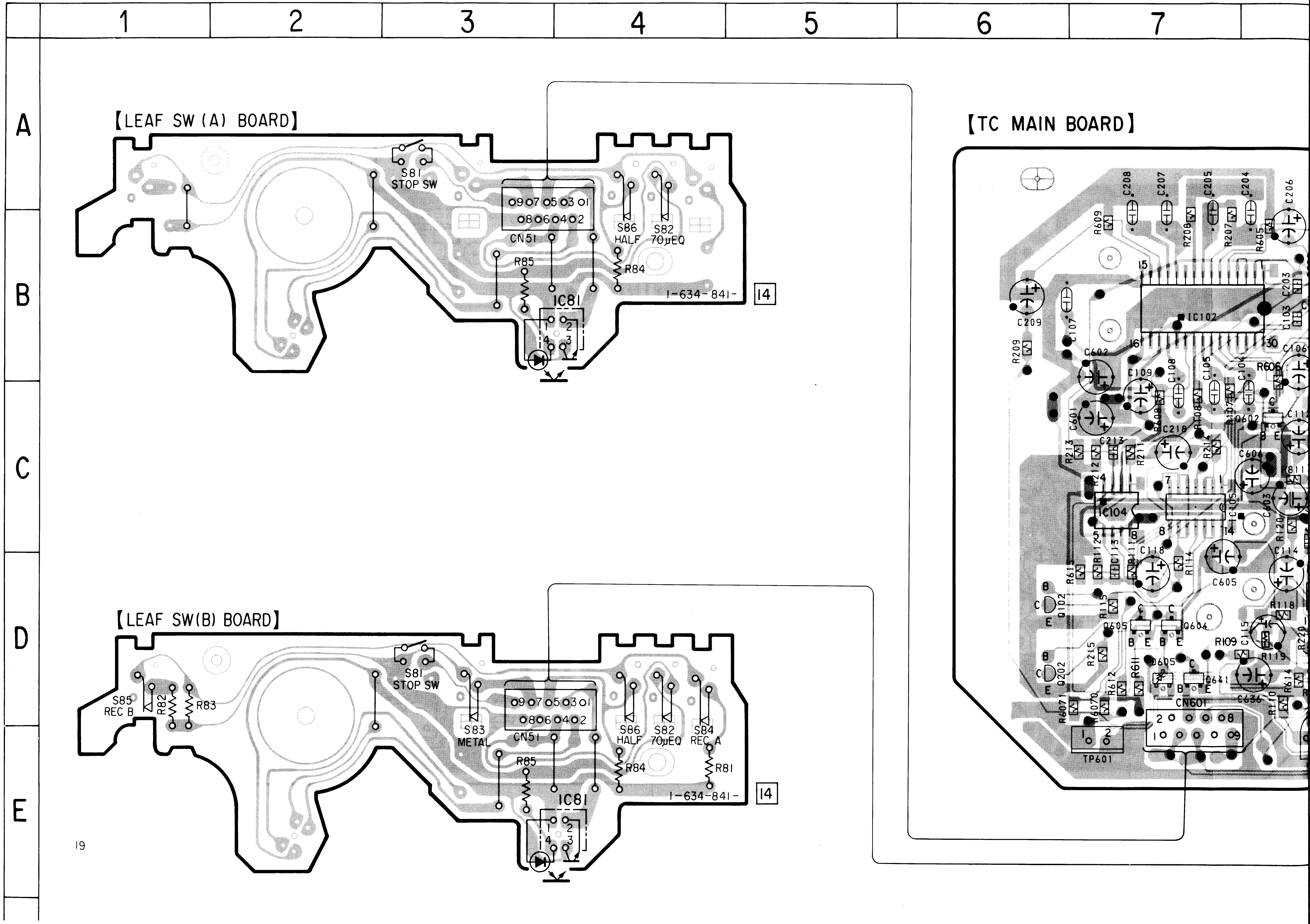
— AEP, UK, East European, German, —
Italian Model

Ref. No.	Location	Ref. No.	Location
D601	B-8	Q101	C-9
D602	B-12	Q102	D-6
D603	C-11	Q201	C-9
D604	D-9	Q202	D-6
D605	D-7	Q601	B-8
D607	D-12	Q602	C-8
D608	D-12	Q603	B-8
D609	C-9	Q604	D-7
D612	E-12	Q605	D-7
D6010	D-9	Q607	D-9
D6011	C-9	Q608	D-9
		Q609	C-11
IC81	B-4	Q611	C-13
IC81*	E-4	Q612	C-13
IC101	B-10	Q613	C-13
IC102	B-7		
IC103	C-8	Q616	D-12
		Q617	D-12
IC104	C-7	Q620	D-9
IC105	C-7	Q625	B-12
IC106	D-8	Q627	D-8
IC601	D-10		
IC602	D-11	Q641	D-7
		Q642	D-9
IC603	C-14		
IC604	B-12		
IC605	B-10		
IC6001	C-9		

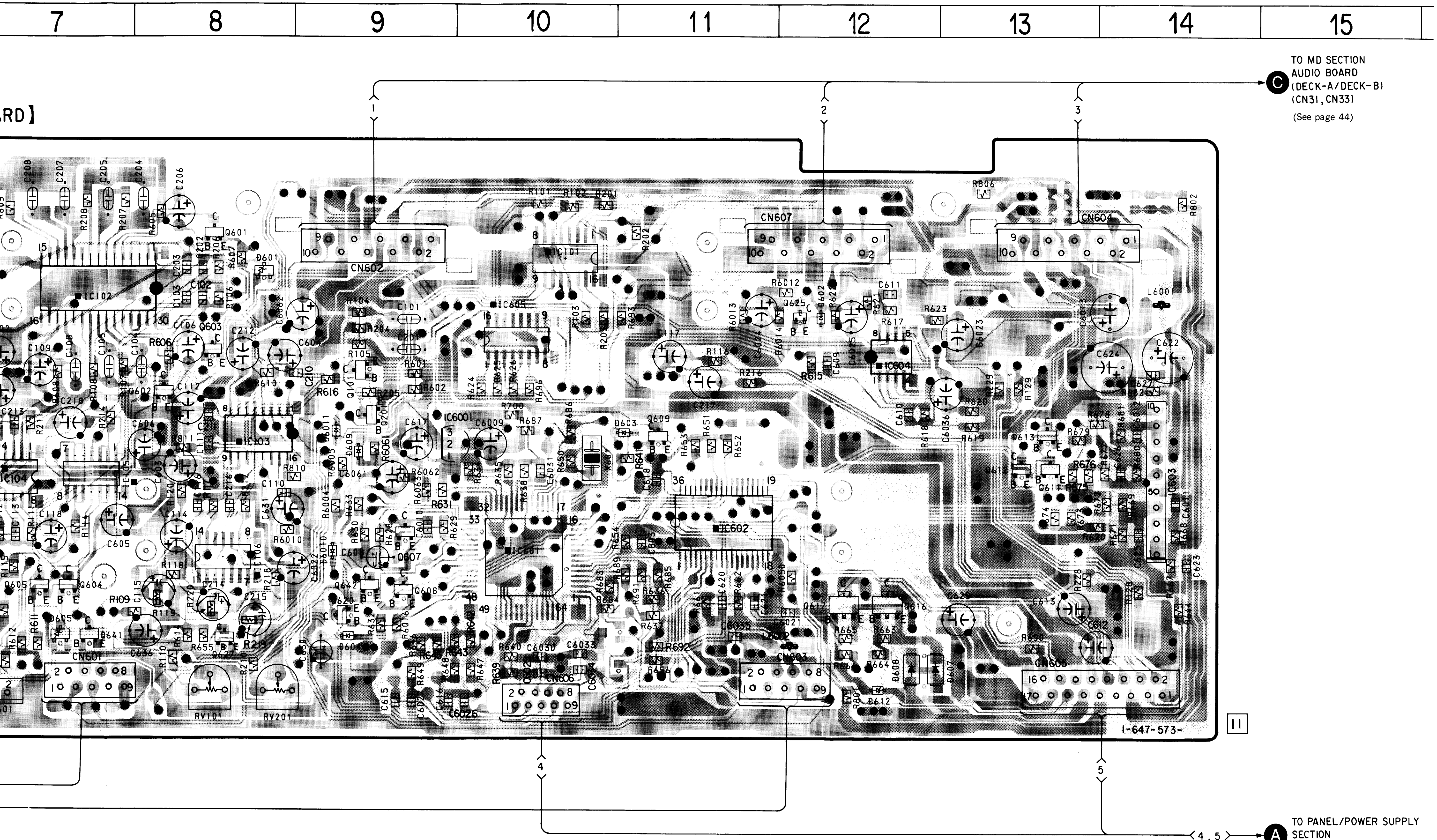
*Mark: Parts of LEAF SW (B) board

Notes on printed wiring boards:

- ○—— : Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- ● : Through hole
- ▨ : Pattern from the side which enables seeing
- : Pattern of the rear side



1
2
3
4
5
6
7
A
B
C
D
E
【LEAF SW (A) BOARD】
S81
STOP SW
CN51
S86
HALF
S82
70μEQ
R85
R84
IC81
1-634-841-
14
【LEAF SW(B) BOARD】
S85
REC B
R82
R83
S83
METAL
S84
REC A
R81
19
【TC MAIN BOARD】
IC102
IC104
CN601
TP601


7
8
9
10
11
12
13
14
15
RD】
CN602
CN607
CN604
CN601
CN603
CN605
CN606
IC101
IC102
IC103
IC104
IC601
IC602
IC604
IC605
IC6001
RV101
RV201
1-647-573-
11
1
2
3
4
5
4 , 5

TO MD SECTION
AUDIO BOARD
(DECK-A/DECK-B)
(CN31, CN33)
(See page 44)

TO PANEL/POWER SUPPLY
SECTION
POWER SUPPLY BOARD
(CN704, 706)
(See page 18)

4-10. PRINTED WIRING BOARDS (DECK SECTION)

— E, Saudi Arabia, Australian, —
Tourist Model

- See page 7 for semiconductor lead layouts and 10 for circuit boards location.

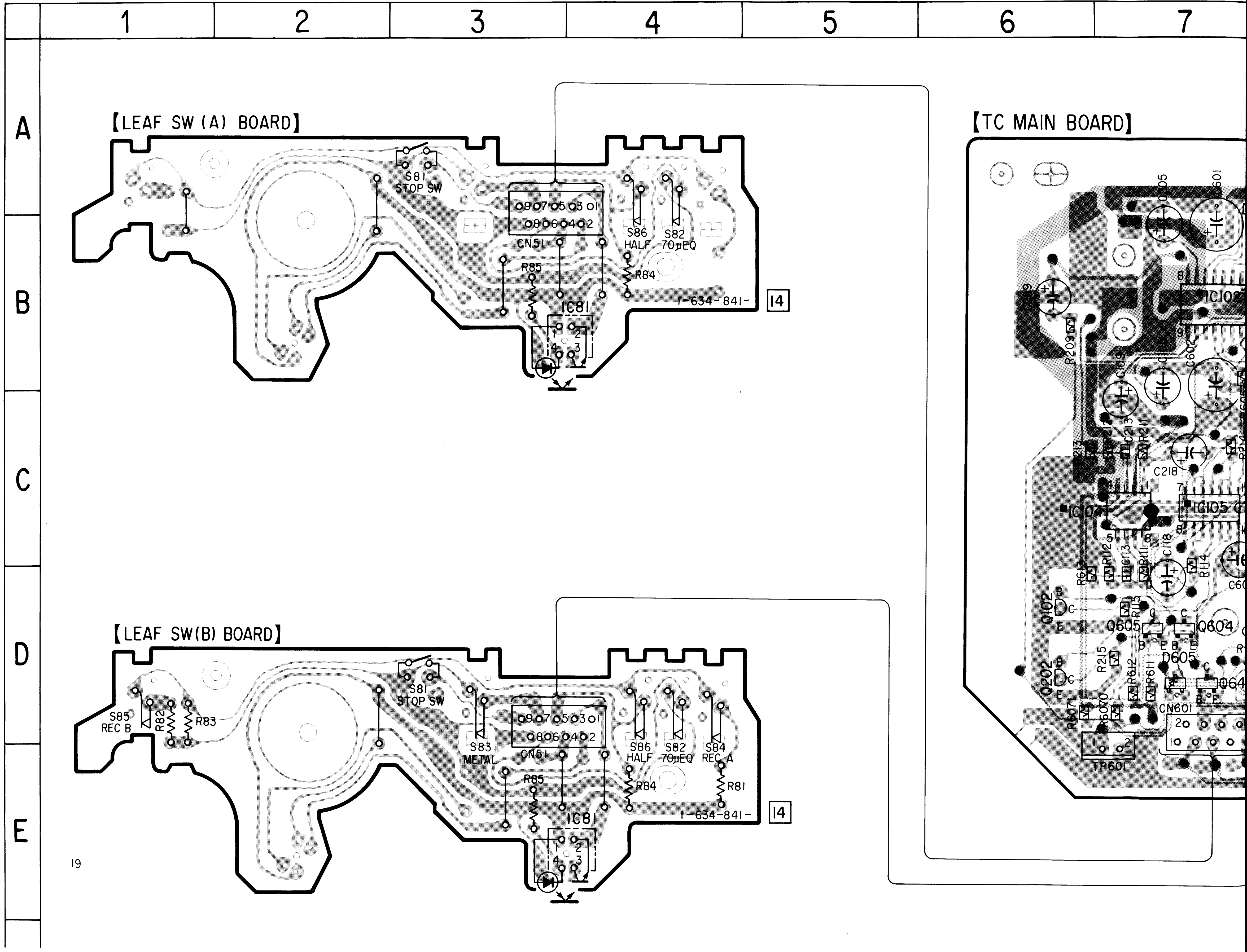
● SEMICONDUCTOR LOCATION

(DECK SECTION)

— E, Saudi Arabia, Australian, —
Tourist Model

Ref. No.	Location	Ref. No.	Location
D601	B-8	IC603	C-14
D602	B-12	IC604	B-12
D603	C-10	IC605	B-10
D604	D-9	IC6001	C-9
D605	D-7		
		Q101	C-9
D607	D-12	Q102	D-6
D608	D-12	Q201	C-9
D609	C-9	Q202	D-6
D612	D-12	Q604	D-7
D6010	D-9		
		Q605	D-7
D6011	C-9	Q607	D-9
D6400	B-7	Q608	D-9
		Q609	C-11
IC81	B-4	Q611	C-13
IC81*	E-4		
IC101	B-10	Q612	C-13
IC102	B-7	Q613	C-13
IC103	C-8	Q616	D-12
		Q617	D-12
IC104	C-7	Q620	D-9
IC105	C-7		
IC106	D-8	Q625	B-12
IC601	D-10	Q627	D-8
IC602	C-11	Q641	D-7

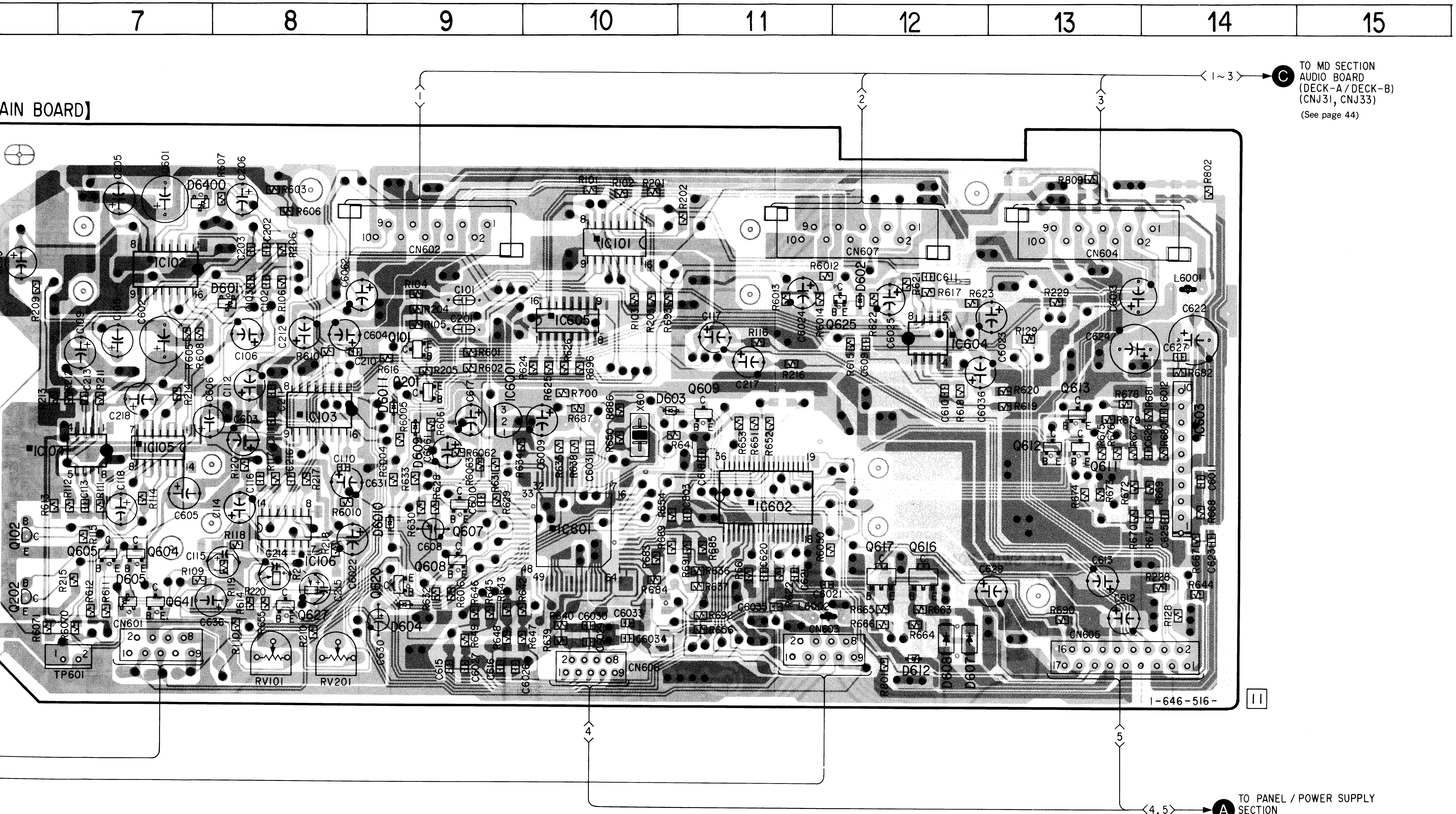
*Mark: Parts of LEAF SW (B) board


1
2
3
4
5
6
7
A
B
C
D
E
【LEAF SW (A) BOARD】
S81 STOP SW
CN51
S86 HALF
S82 70μEQ
R85
R84
IC81
1-634-841-
14
【LEAF SW(B) BOARD】
S85 REC B
R82
R83
S81 STOP SW
S83 METAL
CN51
S86 HALF
S82 70μEQ
S84 REC A
R85
R84
R81
IC81
1-634-841-
14
19
【TC MAIN BOARD】
IC102
IC104
IC105
C218
Q102
Q202
Q605
Q604
D605
CN601
TP601
R209
R213
R215
R611
R612
R613
R6070
R6071

Notes on printed wiring boards:

- o——— : Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- ● : Through hole
- ▨ : Pattern from the side which enables seeing
- : Pattern of the rear side

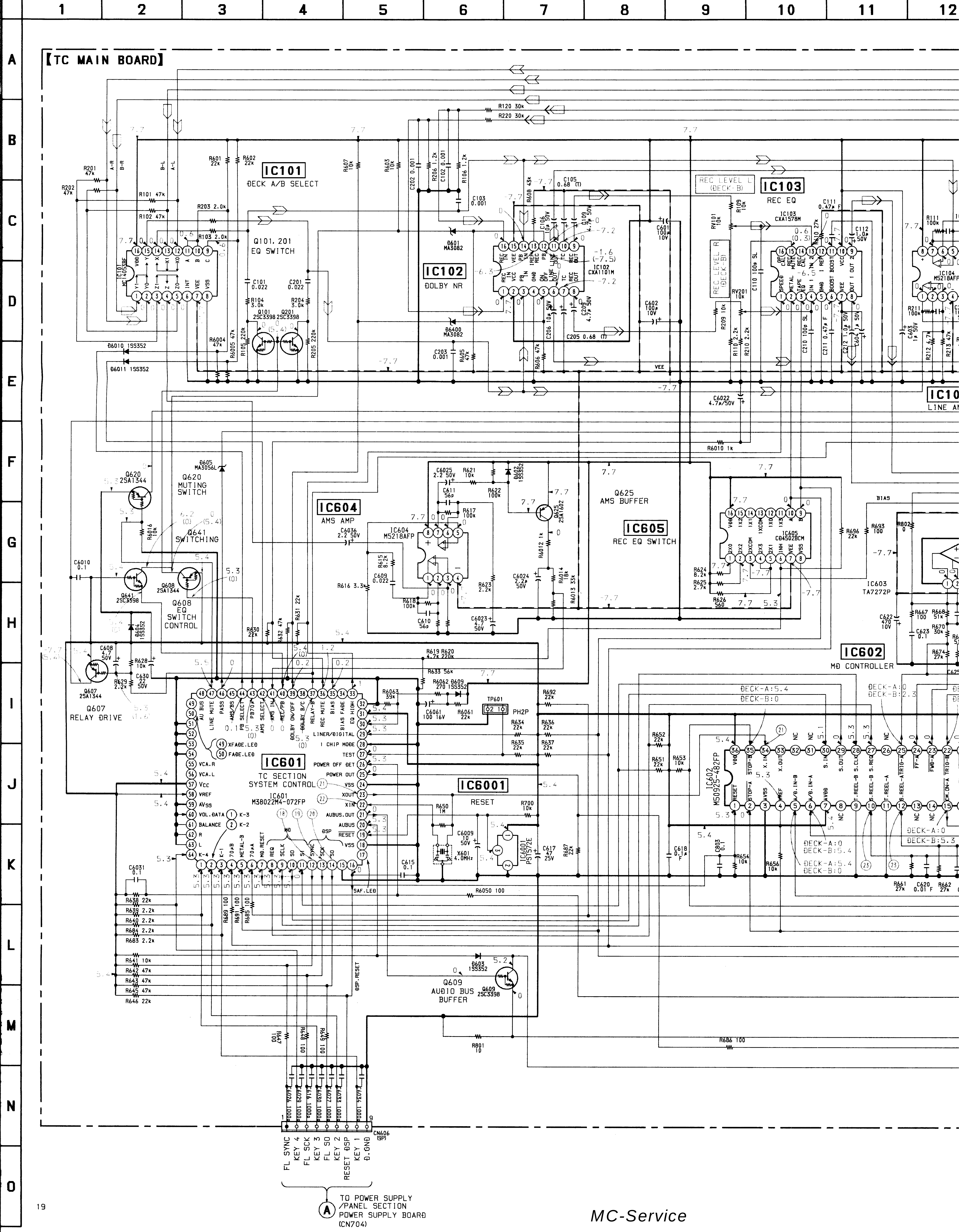
AIN BOARD】


7
8
9
10
11
12
13
14
15
1~3
1
2
3
4
5
4, 5
CN602
CN607
CN604
CN601
CN603
CN605
CN606
IC101
IC102
IC103
IC104
IC105
IC106
IC601
IC602
IC604
IC605
D601
D602
D603
D604
D605
D612
D6400
Q101
Q102
Q201
Q202
Q604
Q605
Q607
Q608
Q609
Q611
Q612
Q613
Q616
Q617
Q620
Q625
Q627
Q641
X601
L6001
RV101
RV201
TP601
1-646-516-
11

C TO MD SECTION
AUDIO BOARD
(DECK-A/DECK-B)
(CNJ31, CNJ33)
(See page 44)

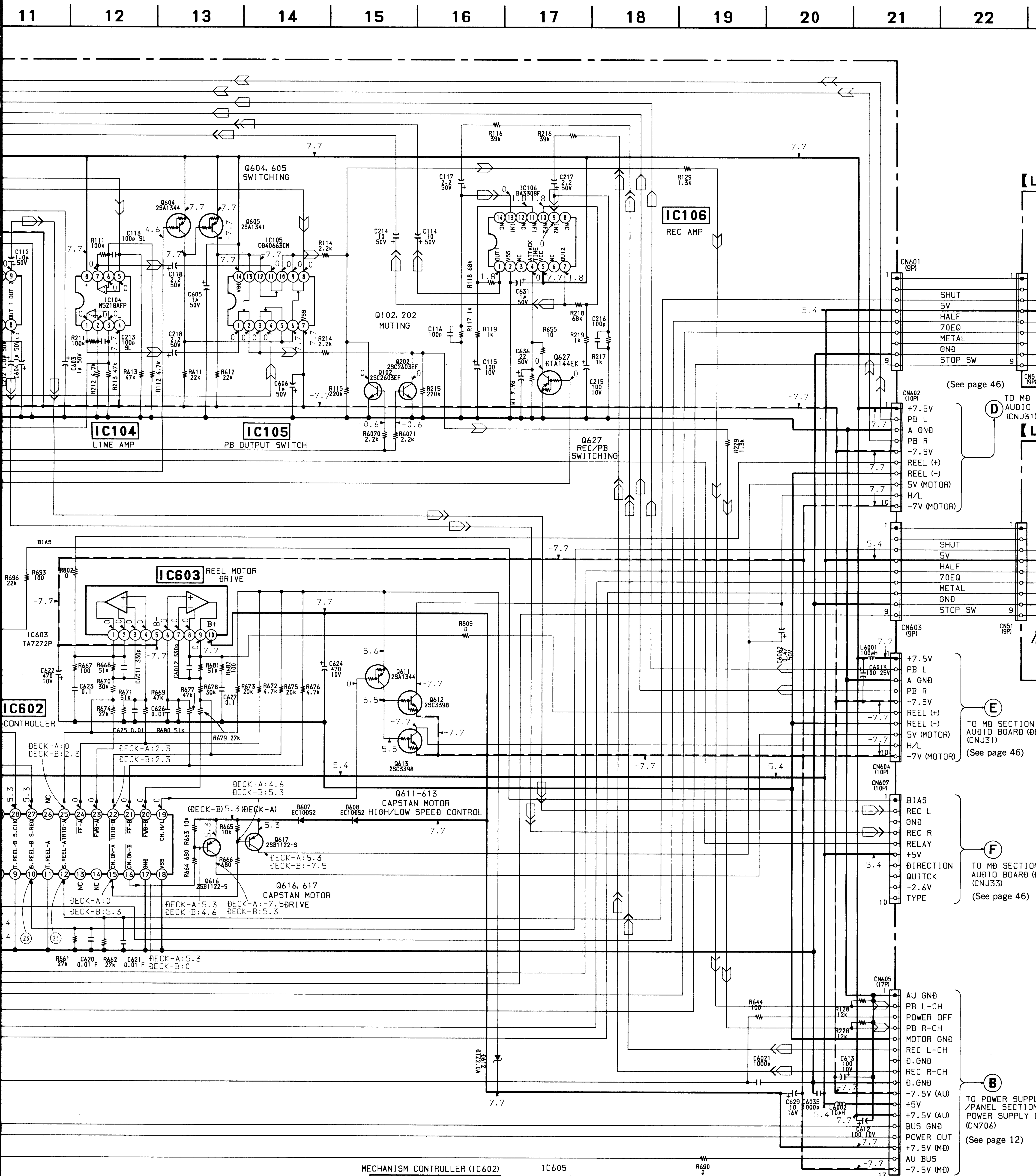
A TO PANEL / POWER SUPPLY SECTION
POWER SUPPLY BOARD
(CN704, 706)
(See page 16)

4-11. SCHEMATIC DIAGRAM (DECK SECTION) – E, Saudi Arabia, Australian, Tourist Model – • See page 8 for waveforms.



[TC MAIN BOARD]
IC101 DECK A/B SELECT
Q101, 201 EQ SWITCH
IC102 DOLBY NR
IC103 REC EQ
REC LEVEL L (DECK-B)
REC LEVEL R (DECK-B)
IC604 AMS AMP
Q625 AMS BUFFER
IC605 REC EQ SWITCH
Q620 MUTING SWITCH
Q641 SWITCHING
Q608 EQ SWITCH CONTROL
Q607 RELAY DRIVE
IC601 TC SECTION SYSTEM CONTROL
IC6001 RESET
IC602 MD CONTROLLER
IC603 TA7272P
LINE AMP
Q609 AUDIO BUS BUFFER
TP601 PH2P
CN606 (9P)
FL SYNC
KEY 4
FL SCK
KEY 3
FL SO
KEY 2
RESET DSP
KEY 1
D.GND
TO POWER SUPPLY /PANEL SECTION POWER SUPPLY BOARD (CN704) (See page 12)

19



11
12
13
14
15
16
17
18
19
20
21
22
IC104
LINE AMP
IC105
PB OUTPUT SWITCH
IC106
REC AMP
IC603
REEL MOTOR DRIVE
IC603 TA7272P
IC602
CONTROLLER
Q604, 605 SWITCHING
Q604 2SA1344
Q605 2SA1341
IC104 M5218AFP
IC105 CD4066BCM
IC106 BA3308F
Q102, 202 MUTING
Q102 2SC2603EF
Q202 2SC2603EF
Q627 REC/PB SWITCHING
Q627 DTA144EK
Q611 2SA1344
Q612 2SC3398
Q613 2SC3398
Q611-613 CAPSTAN MOTOR HIGH/LOW SPEED CONTROL
Q616, 617 CAPSTAN MOTOR DRIVE
Q616 2SB1122-S
Q617 2SB1122-S
D607 EC10DS2
D608 EC10DS2
D612 07ZZ.0A
BIAS
7.7
-7.7
5.4
DECK-A:0
DECK-B:2.3
DECK-A:2.3
DECK-B:2.3
DECK-A:4.6
DECK-B:5.3
(DECK-B) 5.3 (DECK-A)
DECK-A:5.3
DECK-B:-7.5
DECK-A:5.3
DECK-B:4.6
DECK-A:-7.5
DECK-B:5.3
DECK-A:0
DECK-B:5.3
DECK-A:5.3
DECK-B:0
CN601 (9P)
SHUT
5V
HALF
70EQ
METAL
GND
STOP SW
CN5 (9P)
(See page 46)
CN602 (10P)
+7.5V
PB L
A GND
PB R
-7.5V
REEL (+)
REEL (-)
5V (MOTOR)
H/L
-7V (MOTOR)
D
TO MD AUDIO (CNJ31)
CN603 (9P)
SHUT
5V
HALF
70EQ
METAL
GND
STOP SW
CN51 (9P)
L6001 100μH
C6013 100 25V
+7.5V
PB L
A GND
PB R
-7.5V
REEL (+)
REEL (-)
5V (MOTOR)
H/L
-7V (MOTOR)
E
TO MD SECTION AUDIO BOARD (CNJ31)
(See page 46)
CN604 (10P)
CN607 (10P)
BIAS
REC L
GND
REC R
RELAY
+5V
DIRECTION
QUITCK
-2.6V
TYPE
F
TO MD SECTION AUDIO BOARD (CNJ33)
(See page 46)
CN605 (17P)
AU GND
PB L-CH
POWER OFF
PB R-CH
MOTOR GND
REC L-CH
D.GND
REC R-CH
D.GND
-7.5V (AU)
+5V
+7.5V (AU)
BUS GND
POWER OUT
+7.5V (MD)
AU BUS
-7.5V (MD)
B
TO POWER SUPPLY /PANEL SECTION POWER SUPPLY (CN706)
(See page 12)
R690 0

MECHANISM CONTROLLER (IC602)

	FF	TRIG	STOP	FWD
REEL	L	H	L	L
TRIG	H	L	L	H
FWD	H	H	L	L

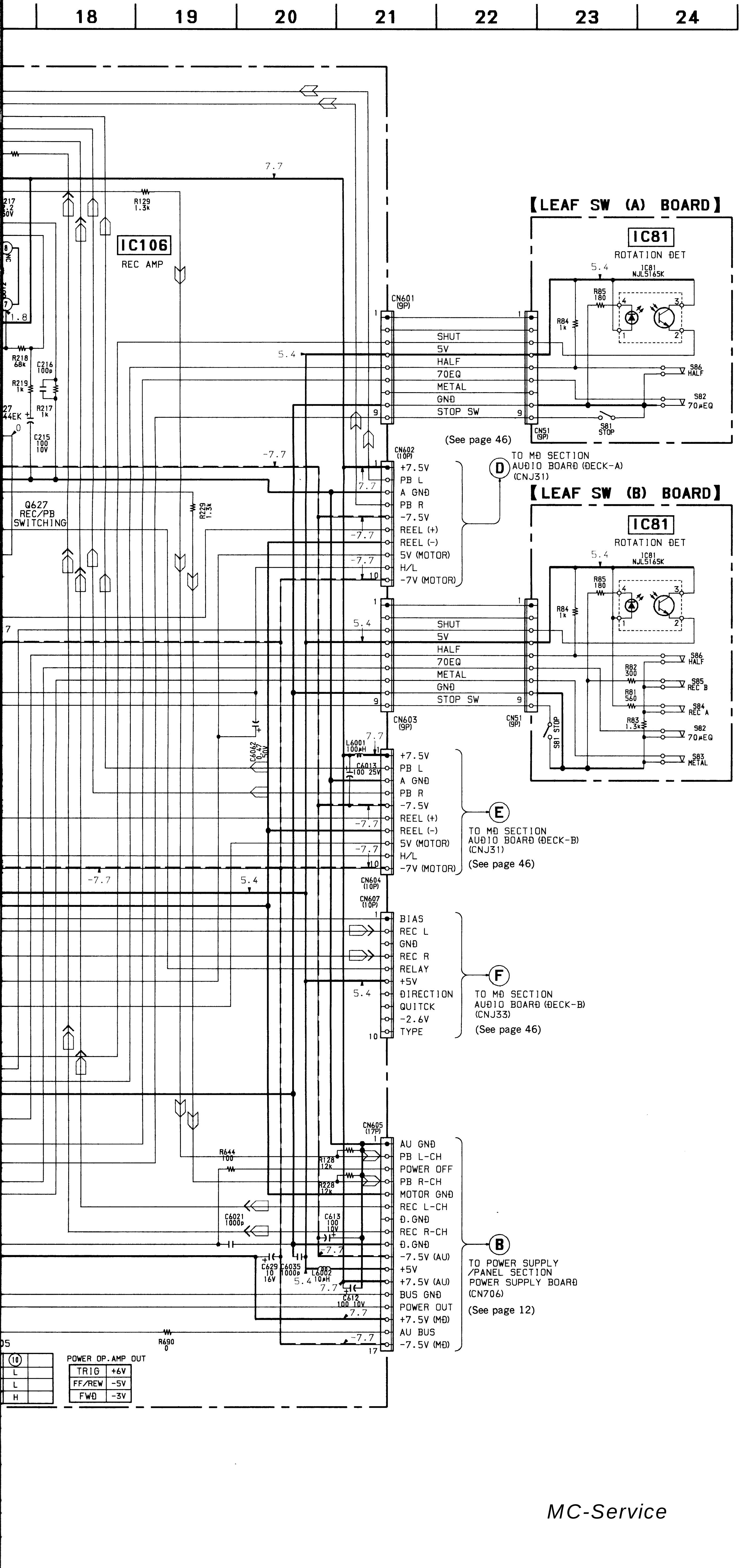
IC605

	⑨	⑩	
TYPE I	L	L	
II	H	L	
III	H	H	

POWER OP.AMP OUT

TRIG	+6V
FF/REW	-5V
FWD	-3V

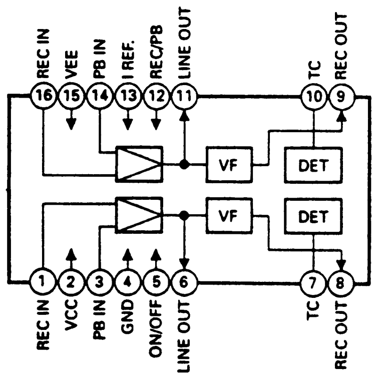
MC-Service


18
19
20
21
22
23
24
7.7
R129 1.3k
IC106
REC AMP
【LEAF SW (A) BOARD】
IC81
ROTATION DET
5.4
IC81 NJL5165K
R85 180
R84 1k
CN601 (9P)
SHUT
5V
HALF
70EQ
METAL
GND
STOP SW
S86 HALF
S82 70μEQ
S81 STOP
CN51 (9P)
(See page 46)
CN602 (10P)
+7.5V
PB L
A GND
PB R
-7.5V
REEL (+)
REEL (-)
5V (MOTOR)
H/L
-7V (MOTOR)
TO MD SECTION
AUDIO BOARD (DECK-A)
(CNJ31)
D
【LEAF SW (B) BOARD】
IC81
ROTATION DET
R82 300
R81 560
R83 1.3k
S85 REC B
S84 REC A
S83 METAL
S81 STOP
CN603 (9P)
Q627
REC/PB
SWITCHING
R229 1.3k
-7.7
L6001 100μH
C6013 100 25V
C6062 0.47 50V
E
TO MD SECTION
AUDIO BOARD (DECK-B)
(CNJ31)
(See page 46)
CN604 (10P)
CN607 (10P)
BIAS
REC L
GND
REC R
RELAY
+5V
DIRECTION
QUITCK
-2.6V
TYPE
F
TO MD SECTION
AUDIO BOARD (DECK-B)
(CNJ33)
(See page 46)
CN605 (17P)
AU GND
PB L-CH
POWER OFF
PB R-CH
MOTOR GND
REC L-CH
D.GND
REC R-CH
D.GND
-7.5V (AU)
+5V
+7.5V (AU)
BUS GND
POWER OUT
+7.5V (MD)
AU BUS
-7.5V (MD)
B
TO POWER SUPPLY
/PANEL SECTION
POWER SUPPLY BOARD
(CN706)
(See page 12)
R644 100
R128 12k
R228 12k
C6021 1000p
C613 100 10V
C629 10 16V
C6035 1000p
L6002 10μH
C612 100 10V
R690 0
R217 2.2 50V
R218 68k
C216 100p
R219 1k
R217 1k
C215 100 10V
POWER OP.AMP OUT
TRIG +6V
FF/REW -5V
FWD -3V
L
L
H

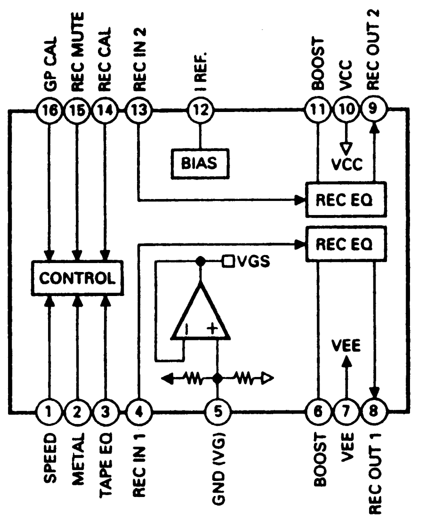
4-12. IC BLOCK DIAGRAM (DECK SECTION)

E, Saudi Arabia, Australian, Tourist Model

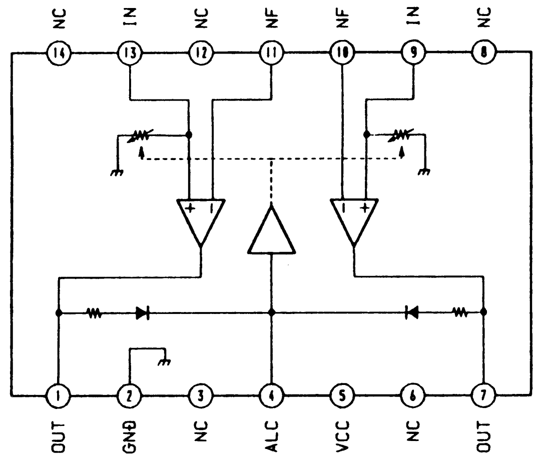
IC102 CXA1101M


REC IN
VEE
PB IN
I REF.
REC/PB
LINE OUT
TC
REC OUT
VF
DET
VF
DET
REC IN
VCC
PB IN
GND
ON/OFF
LINE OUT
TC
REC OUT

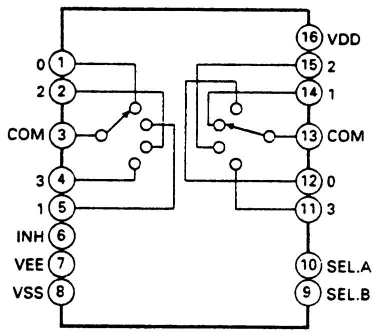
IC103 CXA1578M


GP CAL
REC MUTE
REC CAL
REC IN 2
I REF.
BOOST
VCC
REC OUT 2
BIAS
VCC
REC EQ
REC EQ
CONTROL
VGS
VEE
SPEED
METAL
TAPE EQ
REC IN 1
GND (VG)
BOOST
VEE
REC OUT 1

IC106 BA3308F


NC
IN
NC
NF
NF
IN
NC
OUT
GND
NC
ALC
VCC
NC
OUT

IC605 CD4052BCM

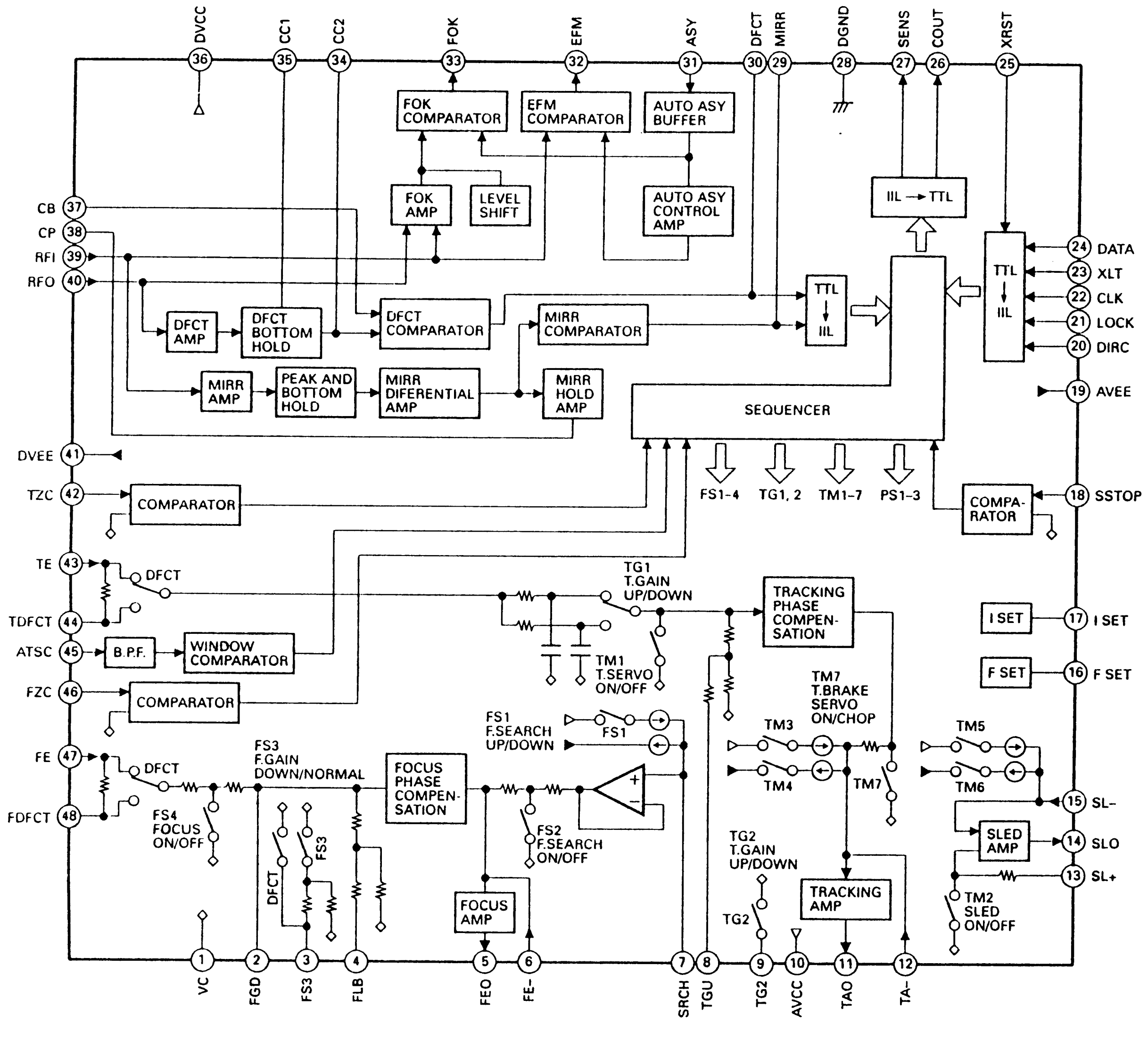

VDD
2
1
COM
0
3
SEL.A
SEL.B
0
2
COM
3
1
INH
VEE
VSS

Notes on schematic diagram:

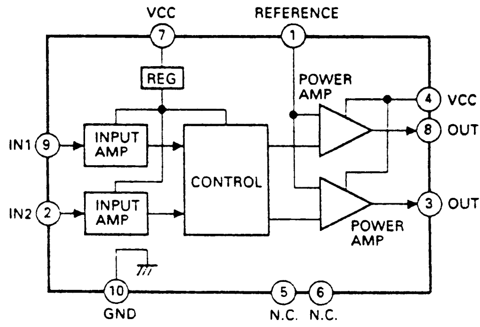
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : Internal component.
- % : Indicate permissible margin.
- ━━ : B+ Line.
- ╍╍ : B− Line.
- ▭ : Adjustment for repair.
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : PLAY
  ( ) : RECORD
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  ⊳ : PLAYBACK (DECK-A)
  ⊳ : PLAYBACK (DECK-B)
  ⊳ : RECORD (DECK-B)

4-13. IC BLOCK DIAGRAM (CD SECTION)

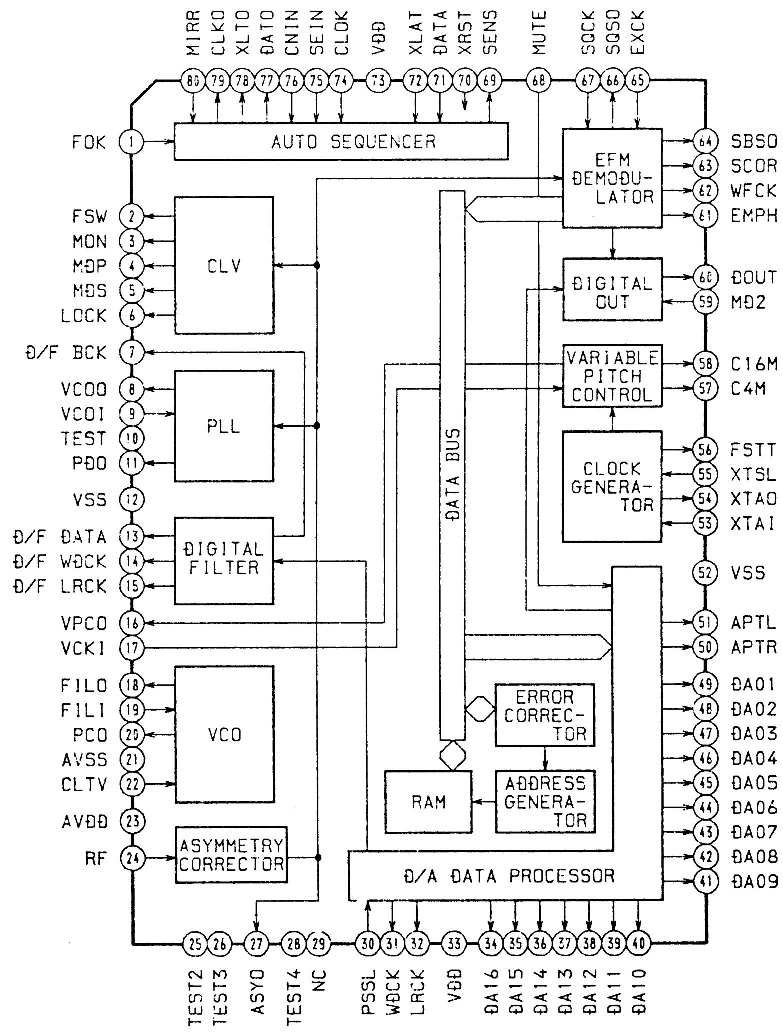
IC101 CXA1372AQ


DVCC 36
CC1 35
CC2 34
FOK 33
EFM 32
ASY 31
DFCT 30
MIRR 29
DGND 28
SENS 27
COUT 26
XRST 25
FOK COMPARATOR
EFM COMPARATOR
AUTO ASY BUFFER
FOK AMP
LEVEL SHIFT
AUTO ASY CONTROL AMP
IIL → TTL
TTL ↓ IIL
CB 37
CP 38
RFI 39
RFO 40
DFCT AMP
DFCT BOTTOM HOLD
DFCT COMPARATOR
MIRR COMPARATOR
MIRR AMP
PEAK AND BOTTOM HOLD
MIRR DIFERENTIAL AMP
MIRR HOLD AMP
SEQUENCER
24 DATA
23 XLT
22 CLK
21 LOCK
20 DIRC
19 AVEE
DVEE 41
TZC 42
COMPARATOR
FS1-4 TG1, 2 TM1-7 PS1-3
COMPA-RATOR
18 SSTOP
TE 43
DFCT
TDFCT 44
ATSC 45
B.P.F.
WINDOW COMPARATOR
FZC 46
COMPARATOR
TG1 T.GAIN UP/DOWN
TRACKING PHASE COMPEN-SATION
TM1 T.SERVO ON/OFF
TM7 T.BRAKE SERVO ON/CHOP
I SET
17 I SET
F SET
16 F SET
FS1 F.SEARCH UP/DOWN
FS1
TM3
TM4
TM7
TM5
TM6
FE 47
DFCT
FS3 F.GAIN DOWN/NORMAL
FOCUS PHASE COMPEN-SATION
FDFCT 48
FS4 FOCUS ON/OFF
DFCT
FS3
FS2 F.SEARCH ON/OFF
15 SL-
SLED AMP
14 SLO
13 SL+
TG2 T.GAIN UP/DOWN
TRACKING AMP
TM2 SLED ON/OFF
FOCUS AMP
TG2
VC
FGD 2
FS3 3
FLB 4
FEO 5
FE- 6
SRCH 7
TGU 8
TG2 9
AVCC 10
TAO 11
TA- 12

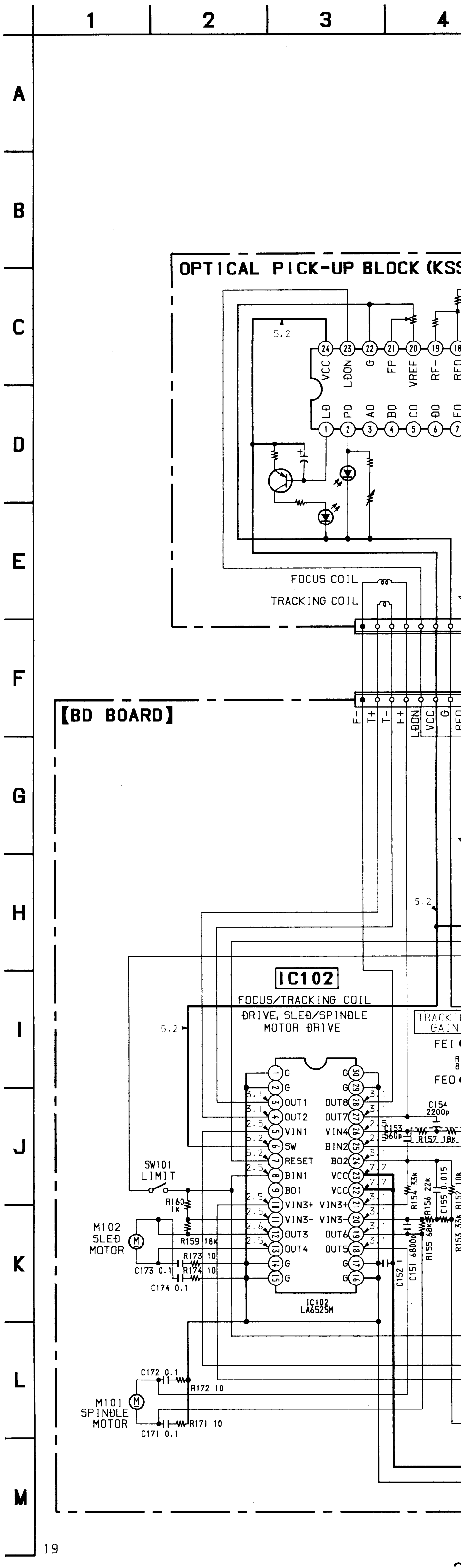
IC103 M54641FP


VCC 7
REFERENCE 1
REG
POWER AMP
4 VCC
8 OUT2
IN1 9
INPUT AMP
CONTROL
IN2 2
INPUT AMP
POWER AMP
3 OUT1
10 GND
5 6 N.C. N.C.

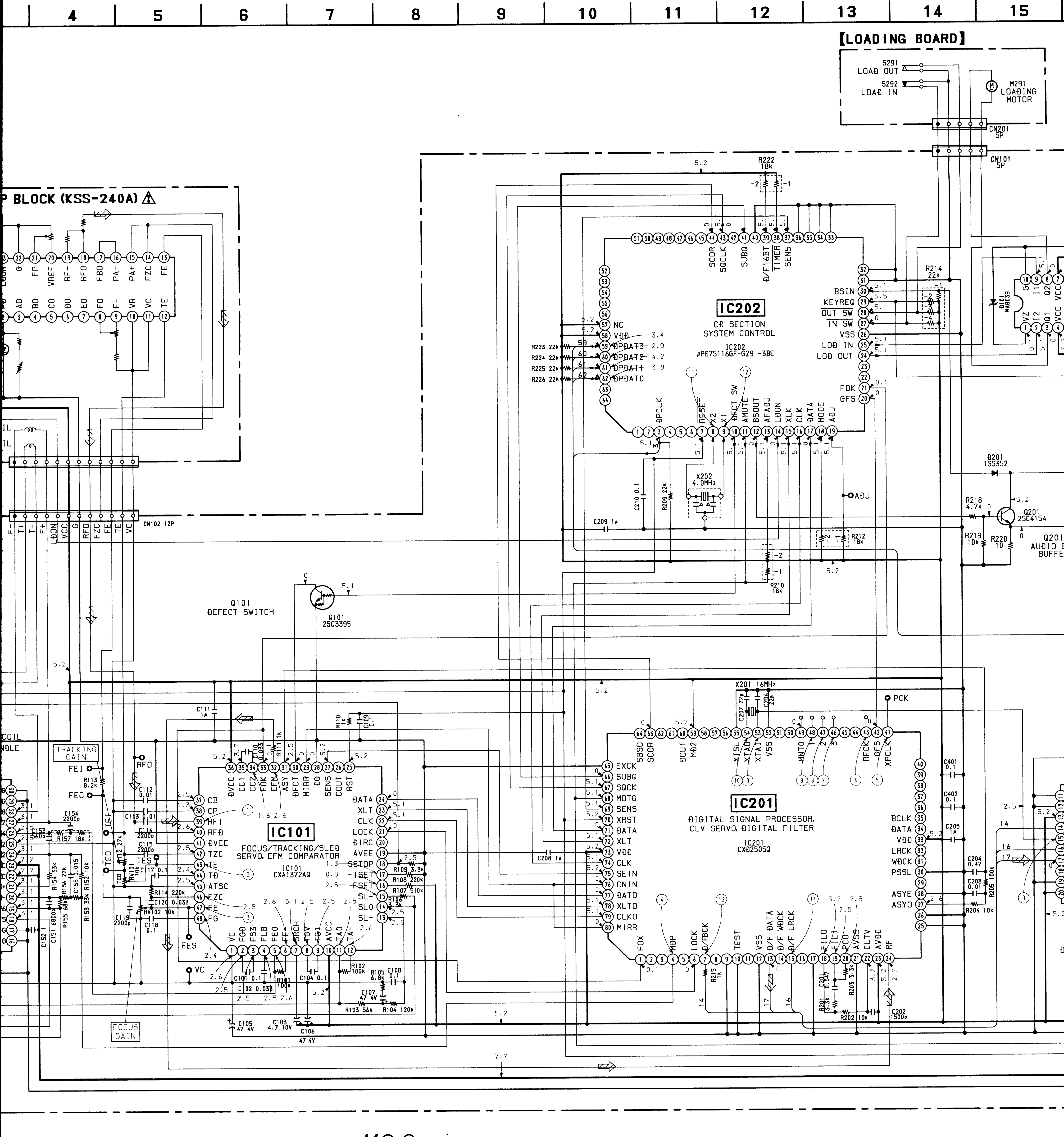
IC201 CXD2505Q


MIRR 80
CLKO 79
XLTO 78
DATO 77
CNIN 76
SEIN 75
CLOK 74
VDD 73
XLAT 72
DATA 71
XRST 70
SENS 69
MUTE 68
SQCK 67
SQSO 66
EXCK 65
FOK 1
AUTO SEQUENCER
EFM DEMODU-LATOR
64 SBSO
63 SCOR
62 WFCK
61 EMPH
FSW 2
MON 3
MDP 4
MDS 5
LOCK 6
CLV
DIGITAL OUT
60 DOUT
59 MD2
D/F BCK 7
VCOO 8
VCOI 9
TEST 10
PDO 11
VSS 12
PLL
DATA BUS
VARIABLE PITCH CONTROL
58 C16M
57 C4M
CLOCK GENERA-TOR
56 FSTT
55 XTSL
54 XTAO
53 XTAI
D/F DATA 13
D/F WDCK 14
D/F LRCK 15
DIGITAL FILTER
52 VSS
VPCO 16
VCKI 17
51 APTL
50 APTR
FILO 18
FILI 19
PCO 20
AVSS 21
CLTV 22
VCO
ERROR CORREC-TOR
RAM
ADDRESS GENERA-TOR
49 DA01
48 DA02
47 DA03
46 DA04
45 DA05
44 DA06
43 DA07
42 DA08
41 DA09
AVDD 23
RF 24
ASYMMETRY CORRECTOR
D/A DATA PROCESSOR
TEST2 25
TEST3 26
ASYO 27
TEST4 28
NC 29
PSSL 30
WDCK 31
LRCK 32
VDD 33
DA16 34
DA15 35
DA14 36
DA13 37
DA12 38
DA11 39
DA10 40

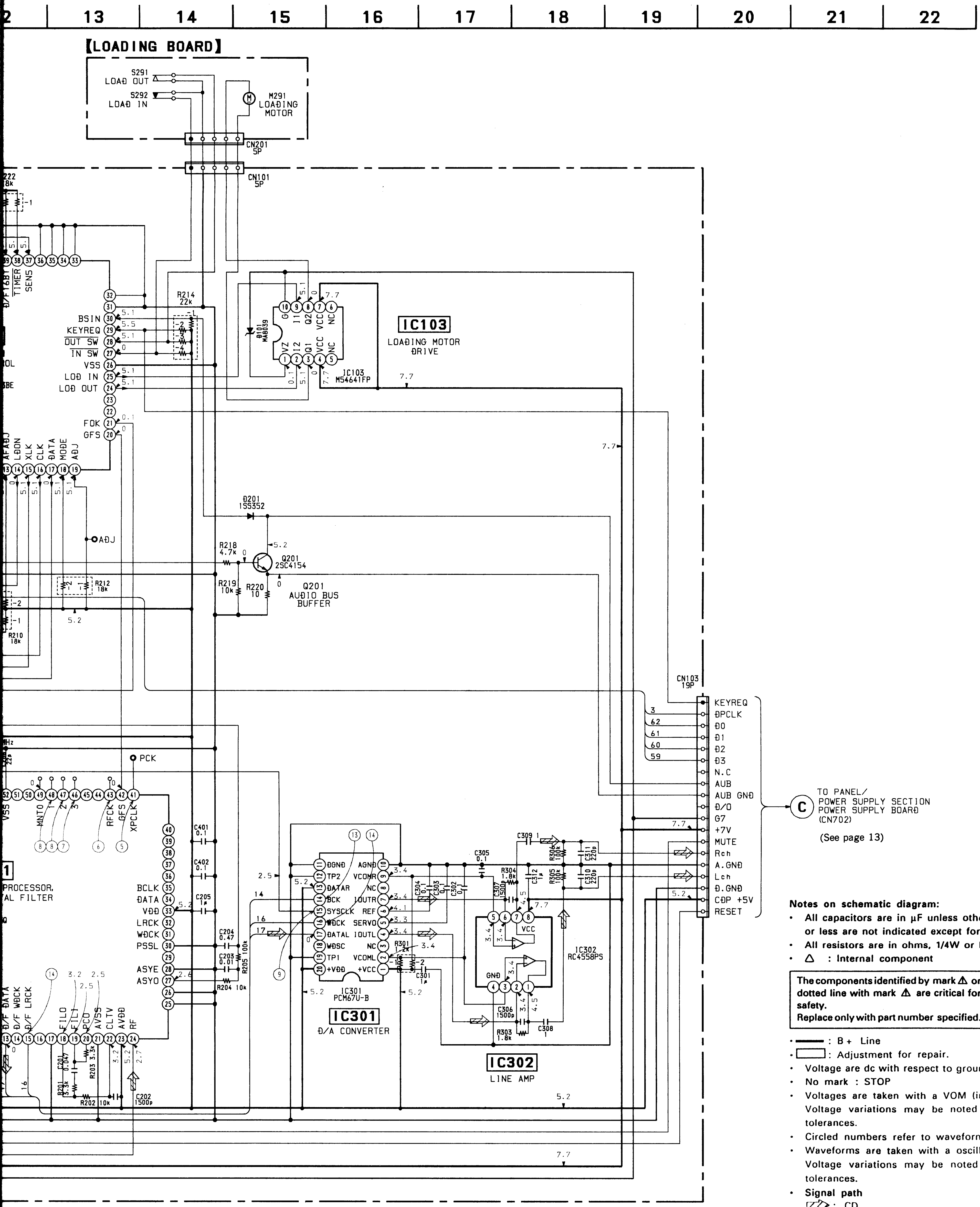
4-14. SCHEMATIC DIAGRAM (CD SECTION) • See p


1
2
3
4
A
B
C
D
E
F
G
H
I
J
K
L
M
OPTICAL PICK-UP BLOCK (KS
VCC
LDON
G
FP
VREF
RF-
LD
PD
AO
BO
CO
DO
FOCUS COIL
TRACKING COIL
[BD BOARD]
F-
T+
T-
F+
LDON
VCC
G
IC102
FOCUS/TRACKING COIL DRIVE, SLED/SPINDLE MOTOR DRIVE
TRACKING GAIN
FEI
FEO
OUT1
OUT2
VIN1
SW
RESET
BIN1
BO1
VIN3+
VIN3-
OUT3
OUT4
OUT8
OUT7
VIN4
BIN2
BO2
VCC
VIN3+
VIN3-
OUT6
OUT5
IC102 LA6525M
C154 2200p
R157 18k
R154 33k
R156 22k
C155 0.015
R155 68k
R153 33k
C151 6800p
C152
SW101 LIMIT
R160 1k
M102 SLED MOTOR
R159 18k
R173 10
R174 10
C173 0.1
C174 0.1
C172 0.1
R172 10
M101 SPINDLE MOTOR
R171 10
C171 0.1
5.2
19

ION) • See page 8 for waveforms.



4
5
6
7
8
9
10
11
12
13
14
15
【LOADING BOARD】
S291 LOAD OUT
S292 LOAD IN
M291 LOADING MOTOR
CN201 5P
CN101 5P
P BLOCK (KSS-240A) ⚠
CN102 12P
R222 18k
IC202
CD SECTION SYSTEM CONTROL
IC202 μPD75116GF-G29-3BE
BSIN
KEYREQ
OUT SW
IN SW
VSS
LOD IN
LOD OUT
FOK
GFS
NC
VDD
DPDAT3
DPDAT2
DPDAT1
DPDATO
R223 22k
R224 22k
R225 22k
R226 22k
DPCLK
RESET
X2
X1
DFCT SW
AMUTE
BSOUT
AFADJ
LDON
XLK
CLK
DATA
MODE
ADJ
SCOR
SQCLK
SUBQ
D/F16BT
TIMER
SENS
X202 4.0MHz
C210 0.1
R209 22k
C209 1μ
R210 18k
R212 18k
R214 22k
D201 1SS352
R218 4.7k
Q201 2SC4154
R219 10k
R220 10
Q201 AUDIO BUFFER
ADJ
Q101 DEFECT SWITCH
Q101 2SC3395
IC101
FOCUS/TRACKING/SLED SERVO, EFM COMPARATOR
IC101 CXA1372AQ
TRACKING GAIN
FOCUS GAIN
FEI
FEO
RFO
TEI
TEO
TES
FES
VC
R113 8.2k
C112 0.01
C154 2200p
C153 560p
R157 18k
C113 0.01
C114 2200p
C115 2200p
RV101 10k
RV102 10k
C117 0.1
R114 220k
C120 0.033
C119 2200p
C118 0.1
C111 1μ
R111 1k
R110 1k
C109 0.1
C110 0.033
C101 0.1
C102 0.033
R101 100k
C104 0.1
R102 100k
R105 6.8k
C108 0.1
C107 47 4V
R103 56k
R104 120k
R106 3.3k
R107 510k
R108 220k
R109 3.3k
C105 47 4V
C103 4.7 10V
C106 47 4V
R151 33k
R152 10k
R153 33k
R154 33k
R155 68k
R156 22k
C155 0.015
C151 6800p
C152 1
IC201
DIGITAL SIGNAL PROCESSOR, CLV SERVO, DIGITAL FILTER
IC201 CXD2505Q
X201 16MHz
C207 22p
C206 22p
PCK
C208 1μ
C401 0.1
C402 0.1
C205 1μ
C204 0.47
C203 0.01
R205 100k
R204 10k
R215 1k
C201 0.047
R201 3.3k
R203 3.3k
R202 10k
C202 1500p
BCLK
DATA
VDD
LRCK
WDCK
PSSL
ASYE
ASYO
EXCK
SUBQ
SQCK
MOTG
SENS
XRST
XLT
CLK
SEIN
CNIN
DATO
XLTO
CLKO
MIRR
FOK
MDP
LOCK
D/FBCK
TEST
VSS
D/F DATA
D/F WDCK
D/F LRCK
FILO
FILI
PCO
AVSS
CLTV
AVDD
RF
SBSO
SCOR
DOUT
MD2
XTSL
XTAO
XTAI
MNTO
RFCK
GFS
XPCLK
CB
CP
RFI
RFD
DVEE
TZC
TE
TD
ATSC
FZC
FE
FG
DVCC
CC1
CC2
FOK
EFM
ASY
DFCT
MIRR
DG
SENS
COUT
RST
DATA
XLT
CLK
LOCK
DIRC
AVEE
SSTOP
ISET
FSET
SL-
SLO
SL+
FGD
FS3
FLB
FEO
SRCH
TGV
TG1
AVCC
TAO
TA-
D01 MA8039
5.2
7.7


13
14
15
16
17
18
19
20
21
22
【LOADING BOARD】
S291 LOAD OUT
S292 LOAD IN
M291 LOADING MOTOR
CN201 5P
CN101 5P
R214 22k
BSIN
KEYREQ
OUT SW
IN SW
VSS
LOD IN
LOD OUT
FOK
GFS
TIMER SENS
D101 MA8039
IC103
LOADING MOTOR DRIVE
IC103 M54641FP
VZ
I2
Q1
VCC
NC
G
I1
Q2
ADJ
D201 1SS352
R218 4.7k
Q201 2SC4154
R219 10k
R220 10
Q201 AUDIO BUS BUFFER
R212 18k
R210 18k
PCK
MNTO
RFCK
GFS
XPCLK
PROCESSOR,
AL FILTER
BCLK
DATA
VDD
LRCK
WDCK
PSSL
ASYE
ASYO
C401 0.1
C402 0.1
C205 1μ
C204 0.47
C203 0.01
R205 100k
R204 10k
FILO
FILI
PCO
AVSS
CLTV
AVDD
RF
R201 3.3k
C201 0.047
R203 3.3k
R202 10k
C202 1500p
DGND
TP2
DATAR
BCK
SYSCLK
WDCK
DATAL
WDSC
TP1
+VDD
AGND
VCOMR
NC
IOUTR
REF
IOUTL
SERVO
NC
VCOML
+VCC
IC301 PCM67U-B
IC301
D/A CONVERTER
C305 0.1
C304 0.1
C303 0.1
C302 0.1
R301 2k
C301 1μ
R304 1.8k
C307 1500p
C309 1
R306 100k
R305 100k
C312 1μ
C311 220p
C310 220p
VCC
GND
IC302 RC4558PS
C306 1500p
R303 1.8k
C308
IC302
LINE AMP
CN103 19P
KEYREQ
DPCLK
D0
D1
D2
D3
N.C
AUB
AUB GND
D/D
G7
+7V
MUTE
Rch
A.GND
Lch
D.GND
CDP +5V
RESET
TO PANEL/
POWER SUPPLY SECTION
POWER SUPPLY BOARD
(CN702)
(See page 13)

Notes on schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : Internal component

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬ : B + Line
- ▭ : Adjustment for repair.
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : STOP
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  ⇨ : CD

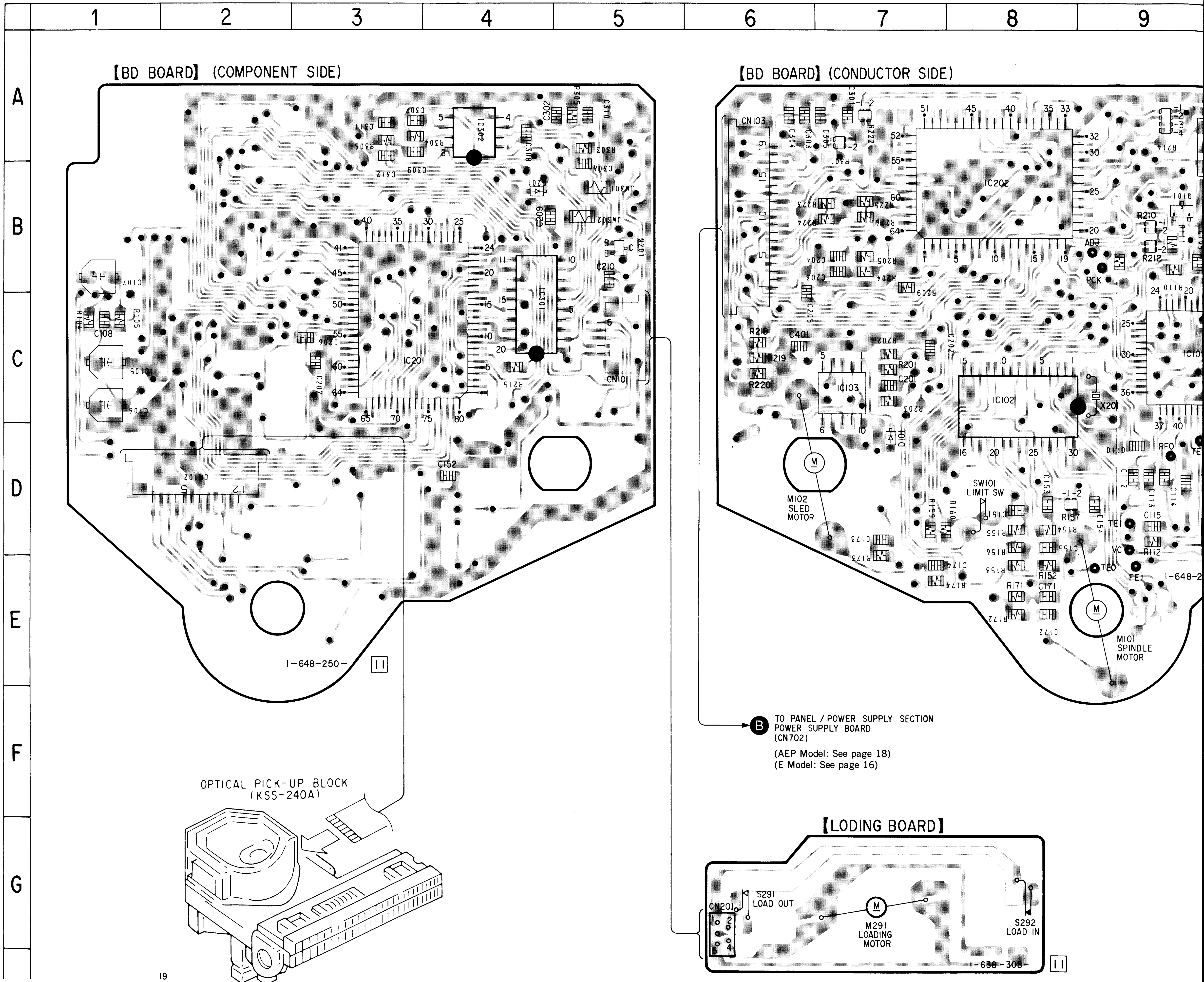
4-15. PRINTED WIRING BOARDS (CD SECTION)

- See page 7 for semiconductor lead layouts and 10 for circuit boards location.

● SEMICONDUCTOR LOCATION

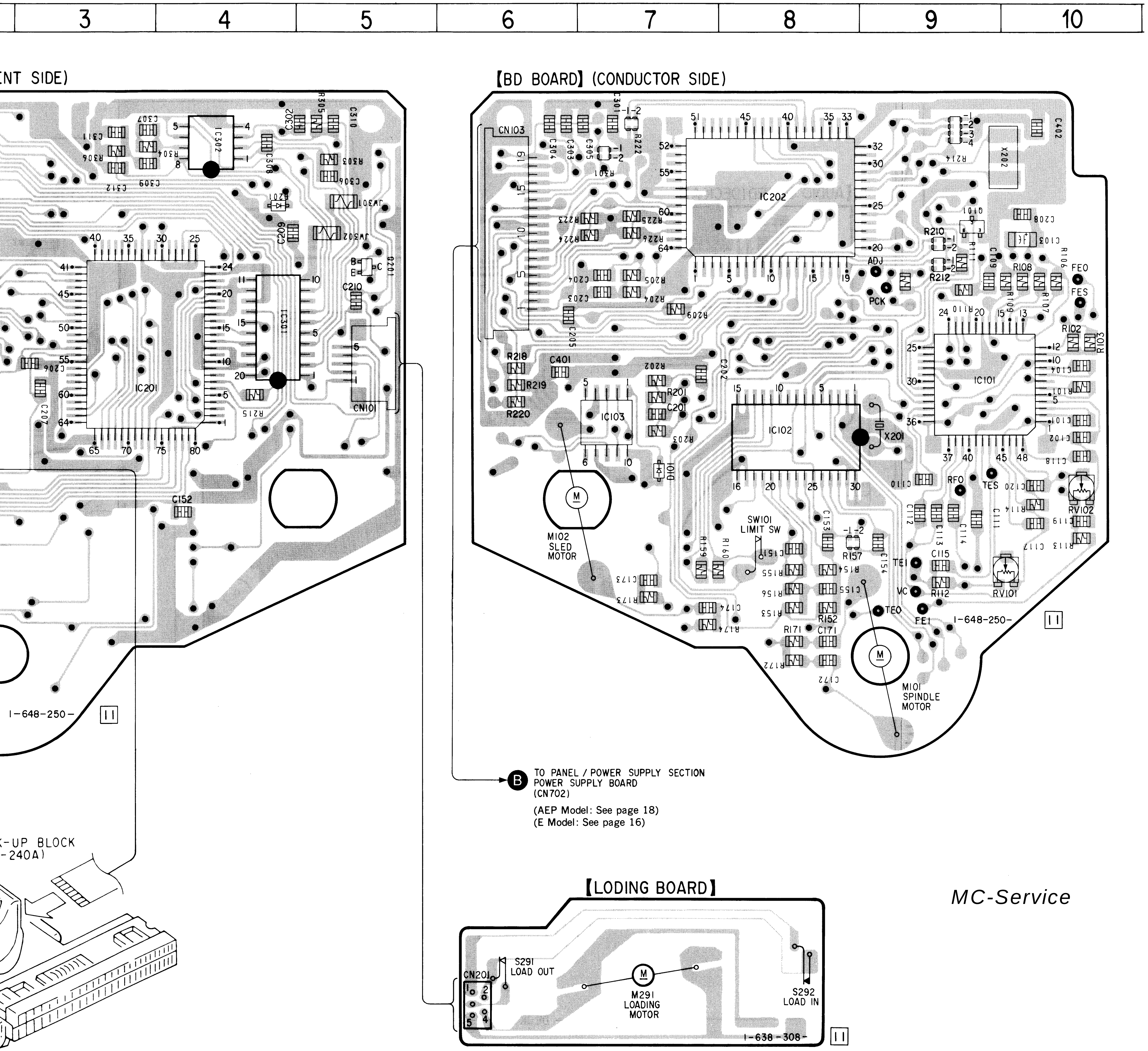
(CD SECTION)

Ref. No.	Location
D101	D-7
D201	B-4
IC101	C-9
IC102	C-8
IC103	C-7
IC201	C-3
IC202	B-8
IC301	C-4
IC302	A-4
Q101	B-9
Q201	B-5


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
【BD BOARD】 (COMPONENT SIDE)
【BD BOARD】 (CONDUCTOR SIDE)
IC302
IC201
IC301
IC202
IC102
IC103
IC101
CN101
CN102
CN103
C152
C108
R104
R105
C105
C106
C107
R218
R219
R220
C401
R201
C201
R210
R212
ADJ
PCK
RFO
TE
TE
VC
TEO
FE
C115
R112
R152
R157
R171
C171
SW101
LIMIT SW
X201
M102
SLED
MOTOR
M101
SPINDLE
MOTOR
1-648-250-
11
1-648-2
OPTICAL PICK-UP BLOCK
(KSS-240A)
TO PANEL / POWER SUPPLY SECTION
POWER SUPPLY BOARD
(CN702)
(AEP Model: See page 18)
(E Model: See page 16)
B
【LODING BOARD】
CN201
S291
LOAD OUT
M291
LOADING
MOTOR
S292
LOAD IN
1-638-308-
11
19

Notes on printed wiring boards:

- ○—— : Indicated a lead wire mounted on the component side
- ● : Through hole
- ▨ : Pattern from the side which enables seeing
- Saudi Arabia, Australian, Tourist models are identical to E model.
- UK, East European, German, Italian models are identical to AEP model.


3
4
5
6
7
8
9
10
NT SIDE)
IC302
IC301
IC201
CN101
C152
1-648-250-
11
K-UP BLOCK
-240A)
【BD BOARD】(CONDUCTOR SIDE)
CN103
IC202
IC101
IC102
IC103
X201
X202
ADJ
PCK
FEO
FES
RFO
TES
TEI
VC
TEO
FEI
RV101
RV102
M102
SLED
MOTOR
SW101
LIMIT SW
M101
SPINDLE
MOTOR
1-648-250-
11
【LODING BOARD】
CN201
S291
LOAD OUT
M291
LOADING
MOTOR
S292
LOAD IN
1-638-308-
11

B TO PANEL / POWER SUPPLY SECTION
POWER SUPPLY BOARD
(CN702)

(AEP Model: See page 18)
(E Model: See page 16)

4-16. PRINTED WIRING BOARDS (TAPE MD SECTION)

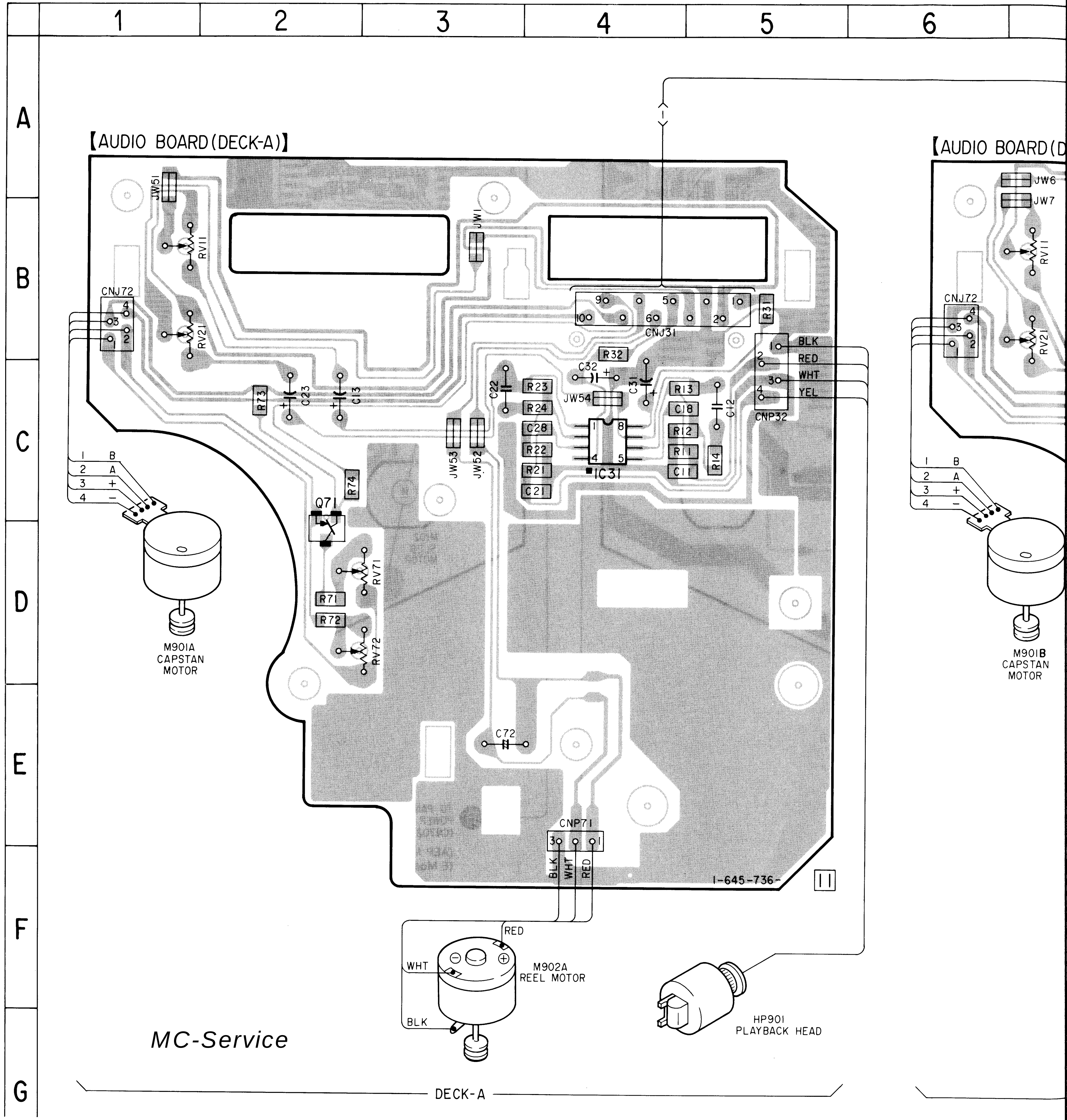
- See page 7 for semiconductor lead layouts and 10 for circuit boards location.

● SEMICONDUCTOR LOCATION

(TAPE MD SECTION)

Ref. No.	Location
D31	D-11
IC31	C-4
IC31*	C-9
Q51	E-10
Q52	E-9
Q53	D-10
Q71	D-2
Q71*	D-8

*Mark: Parts of AUDIO board (DECK-A)


1
2
3
4
5
6
A
B
C
D
E
F
G
【AUDIO BOARD (DECK-A)】
【AUDIO BOARD (D
JW51
JW1
JW6
JW7
RV11
RV21
CNJ72
CNJ31
R31
R32
C32
C31
JW54
C22
R23
R24
C28
R22
R21
C21
R13
C18
R12
R11
C11
C12
R14
IC31
CNP32
BLK
RED
WHT
YEL
R73
C23
C13
JW53
JW52
R74
Q71
RV71
R71
R72
RV72
C72
CNP71
1
B
2
A
3
+
4
−
M901A
CAPSTAN
MOTOR
M901B
CAPSTAN
MOTOR
M902A
REEL MOTOR
HP901
PLAYBACK HEAD
1-645-736-
11
DECK-A

Notes on printed wiring boards:

- •o——: Indicated a lead wire mounted on the component side
- • ■ : Parts mounted on the conductor side
- • [ ]— : Indicates side identified with part number
- • ▨ : Pattern from the side which enables seeing
- · Saudi Arabia, Australian, Tourist models are identical to E model.
- · UK, East European, German, Italian models are identical to AEP model.

N)

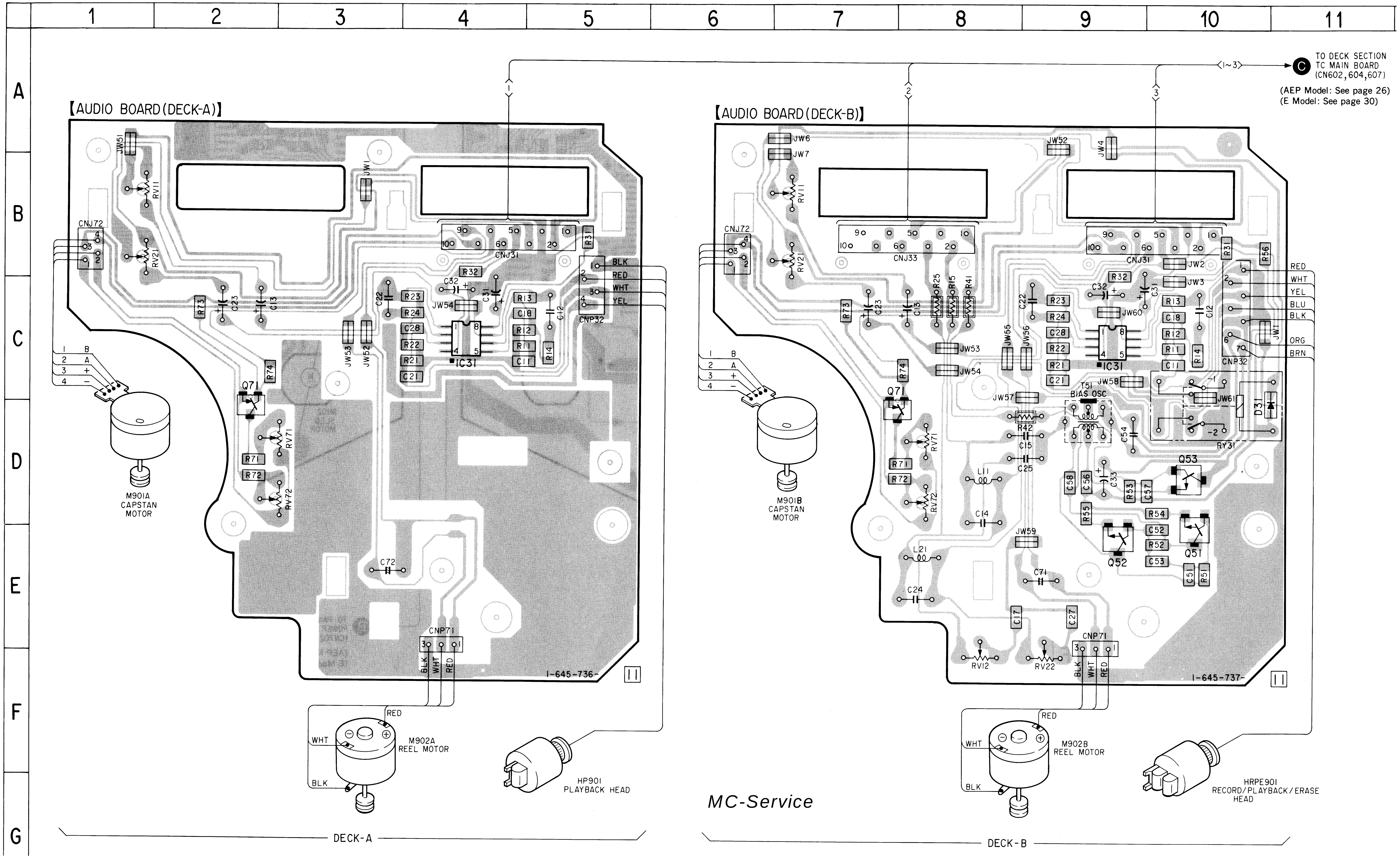
ted

n part

n

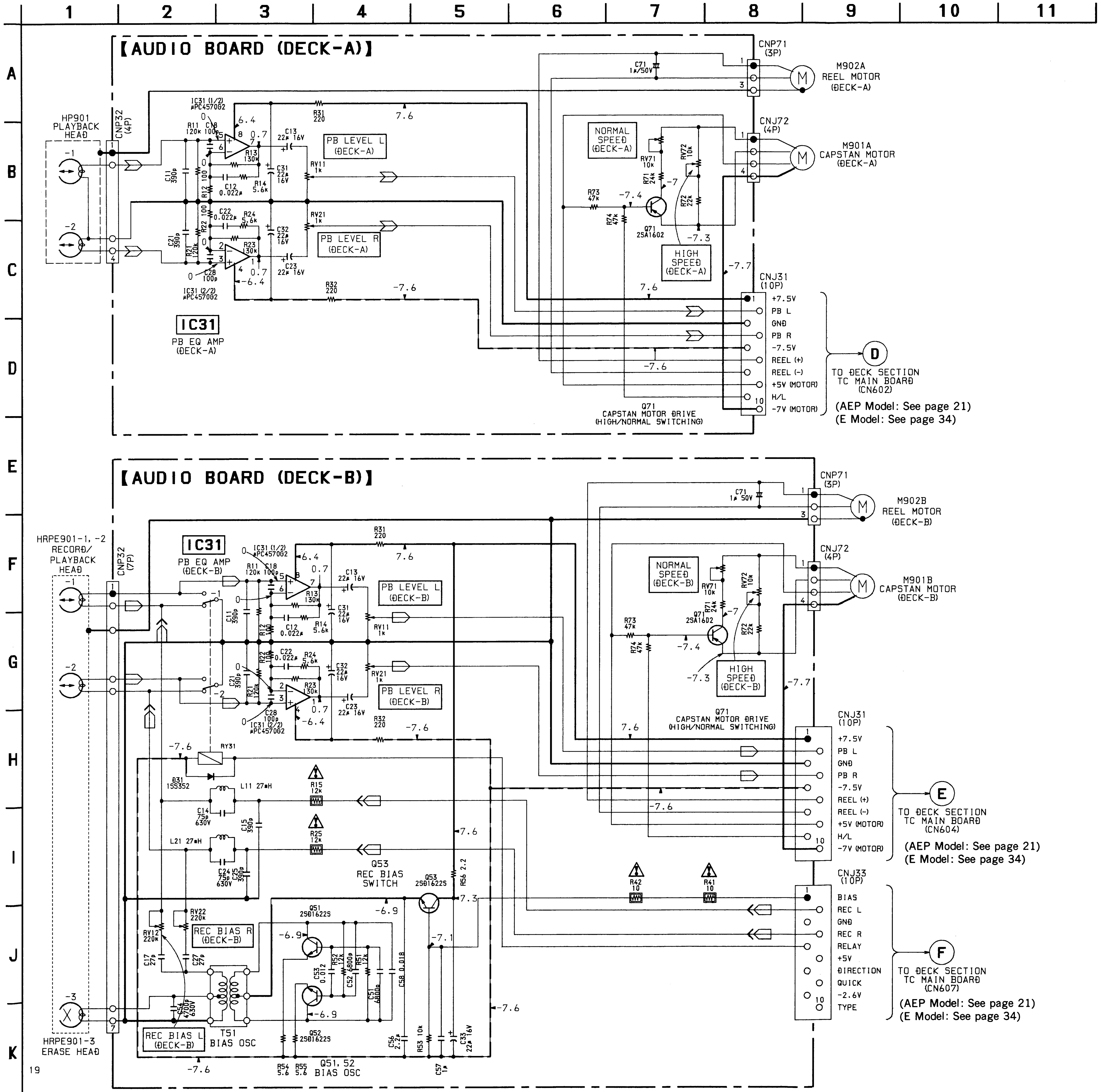
ls

odels



1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
TO DECK SECTION
TC MAIN BOARD
(CN602, 604, 607)
(AEP Model: See page 26)
(E Model: See page 30)
(1~3)
C
【AUDIO BOARD (DECK-A)】
JW51
RV11
RV21
JW1
CNJ72
CNJ31
R31
R32
C32
C31
C23
C13
R73
C22
R23
R24
C28
R22
R21
C21
JW54
IC31
R13
C18
R12
R11
C11
R14
C12
CNP32
BLK
RED
WHT
YEL
JW53
JW52
R74
Q71
RV71
R71
R72
RV72
C72
CNP71
M901A
CAPSTAN
MOTOR
M902A
REEL MOTOR
HP901
PLAYBACK HEAD
1-645-736-
11
B
A
+
−
DECK-A
【AUDIO BOARD (DECK-B)】
JW6
JW7
JW52
JW4
CNJ33
R25
R15
R41
JW2
JW3
JW60
R56
ORG
BRN
BLU
JW53
JW54
JW55
JW56
JW57
JW58
JW61
JW59
R42
C15
C25
C14
C24
L11
L21
T51
BIAS OSC
C54
RY31
D31
Q53
C58
C56
C33
R53
C37
R55
R54
C52
R52
C53
Q52
Q51
C51
R51
C71
C17
C27
RV12
RV22
M901B
CAPSTAN
MOTOR
M902B
REEL MOTOR
HRPE901
RECORD/PLAYBACK/ERASE
HEAD
1-645-737-
DECK-B

4-17. SCHEMATIC DIAGRAM (TAPE MD SECTION)


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
【AUDIO BOARD (DECK-A)】
HP901 PLAYBACK HEAD
CNP32 (4P)
IC31 (1/2) μPC4570G2
IC31 (2/2) μPC4570G2
IC31
PB EQ AMP (DECK-A)
PB LEVEL L (DECK-A)
PB LEVEL R (DECK-A)
RV11 1k
RV21 1k
R31 220
R32 220
NORMAL SPEED (DECK-A)
HIGH SPEED (DECK-A)
Q71 2SA1602
Q71 CAPSTAN MOTOR DRIVE (HIGH/NORMAL SWITCHING)
CNP71 (3P)
M902A REEL MOTOR (DECK-A)
CNJ72 (4P)
M901A CAPSTAN MOTOR (DECK-A)
CNJ31 (10P)
+7.5V
PB L
GND
PB R
-7.5V
REEL (+)
REEL (-)
+5V (MOTOR)
H/L
-7V (MOTOR)
D
TO DECK SECTION TC MAIN BOARD (CN602)
(AEP Model: See page 21)
(E Model: See page 34)
【AUDIO BOARD (DECK-B)】
HRPE901-1, -2 RECORD/PLAYBACK HEAD
HRPE901-3 ERASE HEAD
CNP32 (7P)
IC31
PB EQ AMP (DECK-B)
PB LEVEL L (DECK-B)
PB LEVEL R (DECK-B)
RY31
D31 1SS352
L11 27μH
L21 27μH
R15 12k
R25 12k
Q53 REC BIAS SWITCH
Q53 2SD1622S
Q51 2SD1622S
Q52 2SD1622S
Q51, 52 BIAS OSC
RV12 220k
RV22 220k
REC BIAS R (DECK-B)
REC BIAS L (DECK-B)
T51 BIAS OSC
R42 10
R41 10
NORMAL SPEED (DECK-B)
HIGH SPEED (DECK-B)
Q71 CAPSTAN MOTOR DRIVE (HIGH/NORMAL SWITCHING)
CNP71 (3P)
M902B REEL MOTOR (DECK-B)
CNJ72 (4P)
M901B CAPSTAN MOTOR (DECK-B)
CNJ31 (10P)
E
TO DECK SECTION TC MAIN BOARD (CN604)
(AEP Model: See page 21)
(E Model: See page 34)
CNJ33 (10P)
BIAS
REC L
GND
REC R
RELAY
+5V
DIRECTION
QUICK
-2.6V
TYPE
F
TO DECK SECTION TC MAIN BOARD (CN607)
(AEP Model: See page 21)
(E Model: See page 34)
19

Notes on schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- ▭: Nonflammable resister.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ━━ : B + Line
- ■■■■ : B − Line
- ▭: Adjustment for repair
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : PLAYBACK
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path
  - ⊳ : PLAYBACK (DECK-A)
  - ▷ : PLAYBACK (DECK-B)
  - ▷»: RECORD (DECK-B)
- Saudi Arabia, Australian, Tourist models are identical to E model.
- UK, East European, German, Italian models are identical to AEP model.

SECTION 5

EXPLODED VIEWS

NOTE:

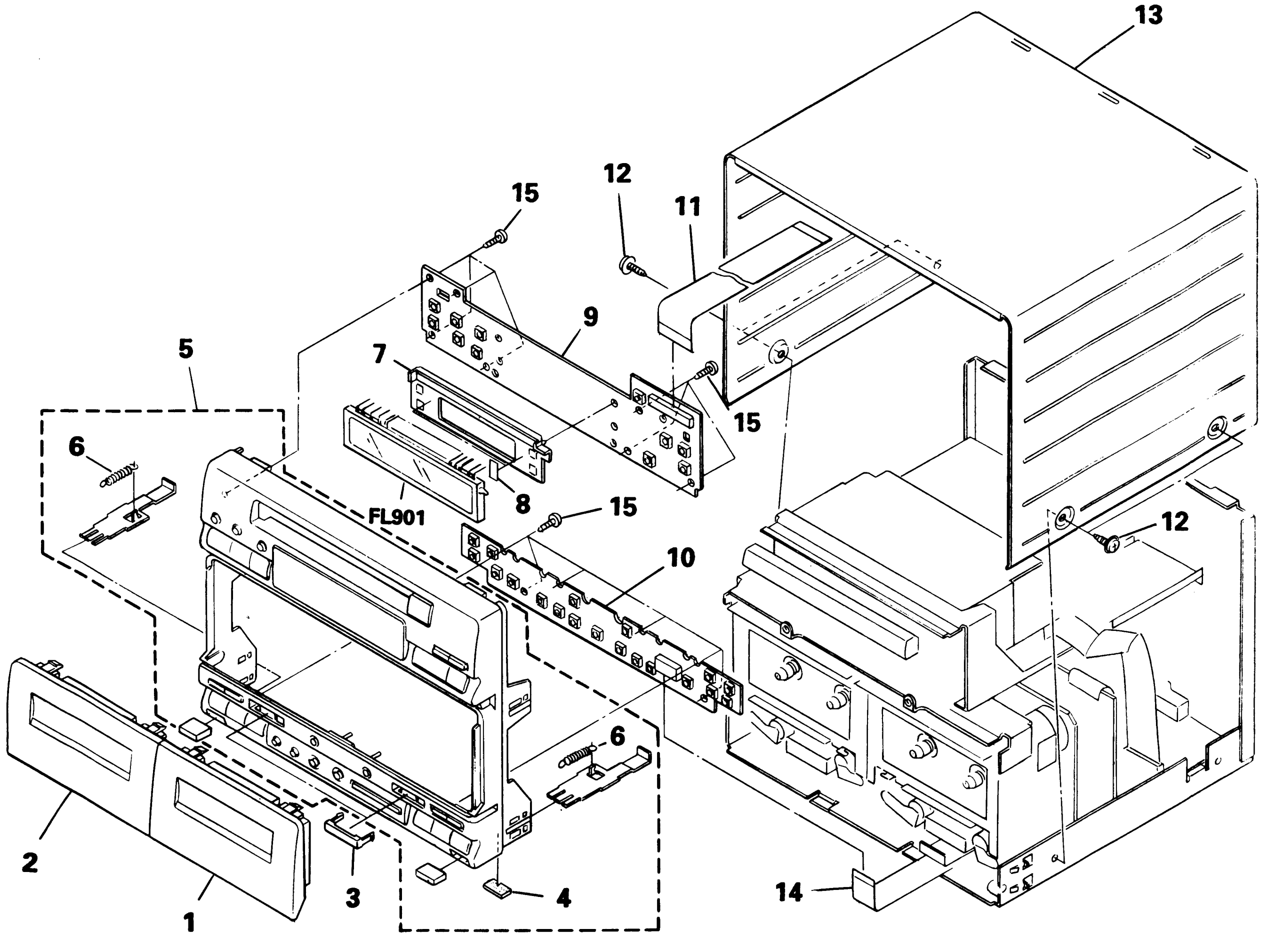
- –XX, –X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB,BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware(# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

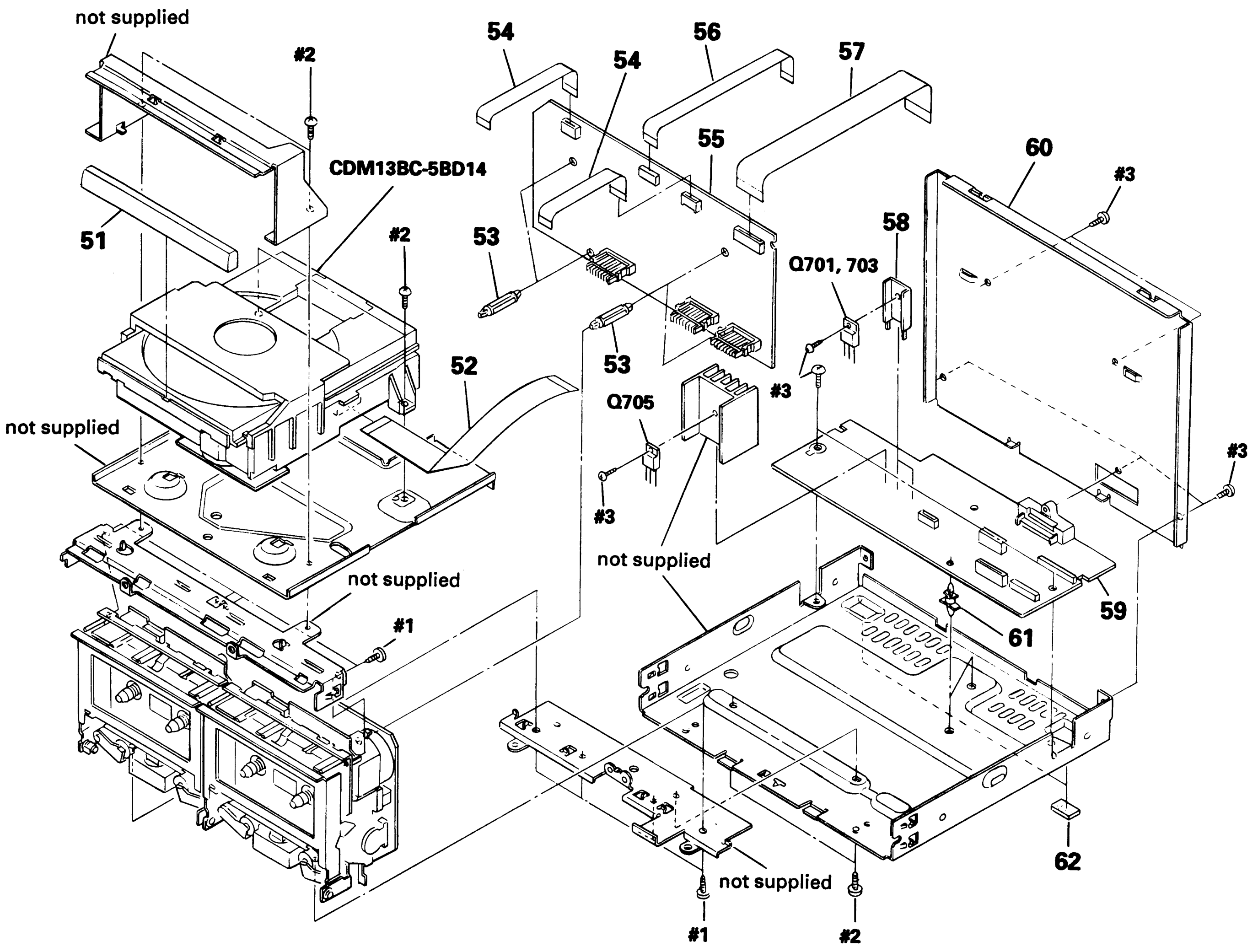
- EE : East European
- G : German
- IT : Italian
- Saudi Arabia, Australian, Tourist models are identical to E model.

5-1. FRONT PANEL SECTION



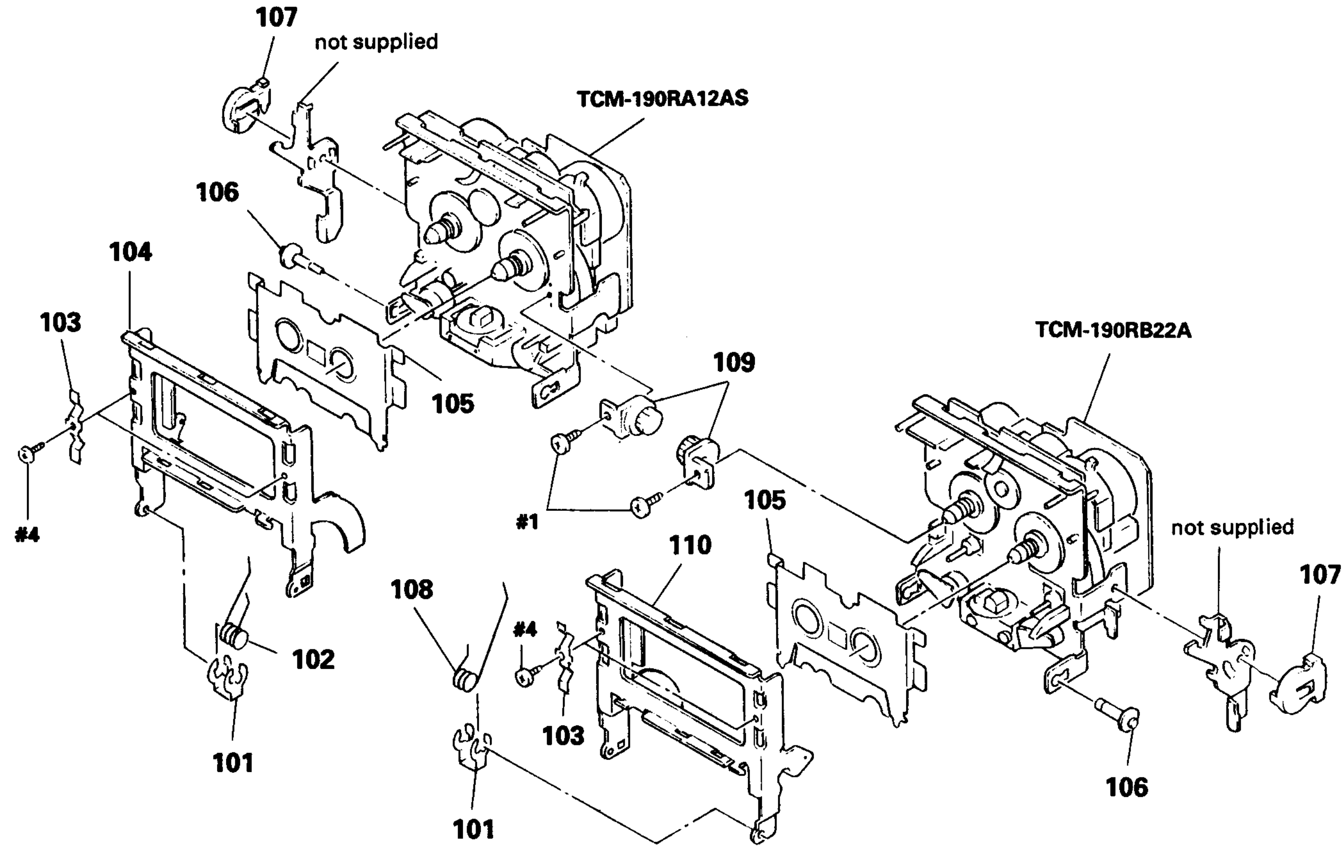
Ref. No.	Part No.	Description	Remarks
1	X-4943-214-1	LID (B) ASSY, CASSETTE (E)	
1	X-4943-284-1	LID (B) ASSY, CASSETTE (EXCEPT E)	
2	X-4943-213-1	LID (A) ASSY, CASSETTE	
3	4-956-195-01	COVER (AZIMUTH)	
4	4-930-336-11	FOOT (FELT)	
5	X-4943-212-1	PANEL ASSY, FRONT	
6	3-489-099-11	SPRING, TENSION	
* 7	4-956-202-01	HOLDER (FL TUBE)	
* 8	4-955-901-01	CUSHION (FL)	
* 9	A-4356-722-A	CD PANEL BOARD, COMPLETE (E)	
* 9	A-4356-829-A	CD PANEL BOARD, COMPLETE (UK)	
* 9	A-4356-833-A	CD PANEL BOARD, COMPLETE (G, IT)	
* 9	A-4360-445-A	CD PANEL BOARD, COMPLETE (AEP, EE)	
* 10	A-4356-720-A	TC PANEL BOARD, COMPLETE (E)	
* 10	A-4356-824-A	TC PANEL BOARD, COMPLETE (AEP, EE)	
* 10	A-4356-827-A	TC PANEL BOARD, COMPLETE (UK)	
* 10	A-4356-831-A	TC PANEL BOARD, COMPLETE (G, IT)	
11	1-696-891-11	WIRE (FLAT TYPE) (26 CORE)	
12	3-363-099-01	SCREW (CASE 3 TP2)	
* 13	4-956-194-11	CASE	
14	1-690-046-11	WIRE, (FLAT TYPE) (11 CORE)	
15	4-951-620-01	SCREW (2.6X8), +BVTP	
FL901	1-517-150-11	INDICATOR TUBE, FLUORESCENT	

5-2. CHASSIS SECTION



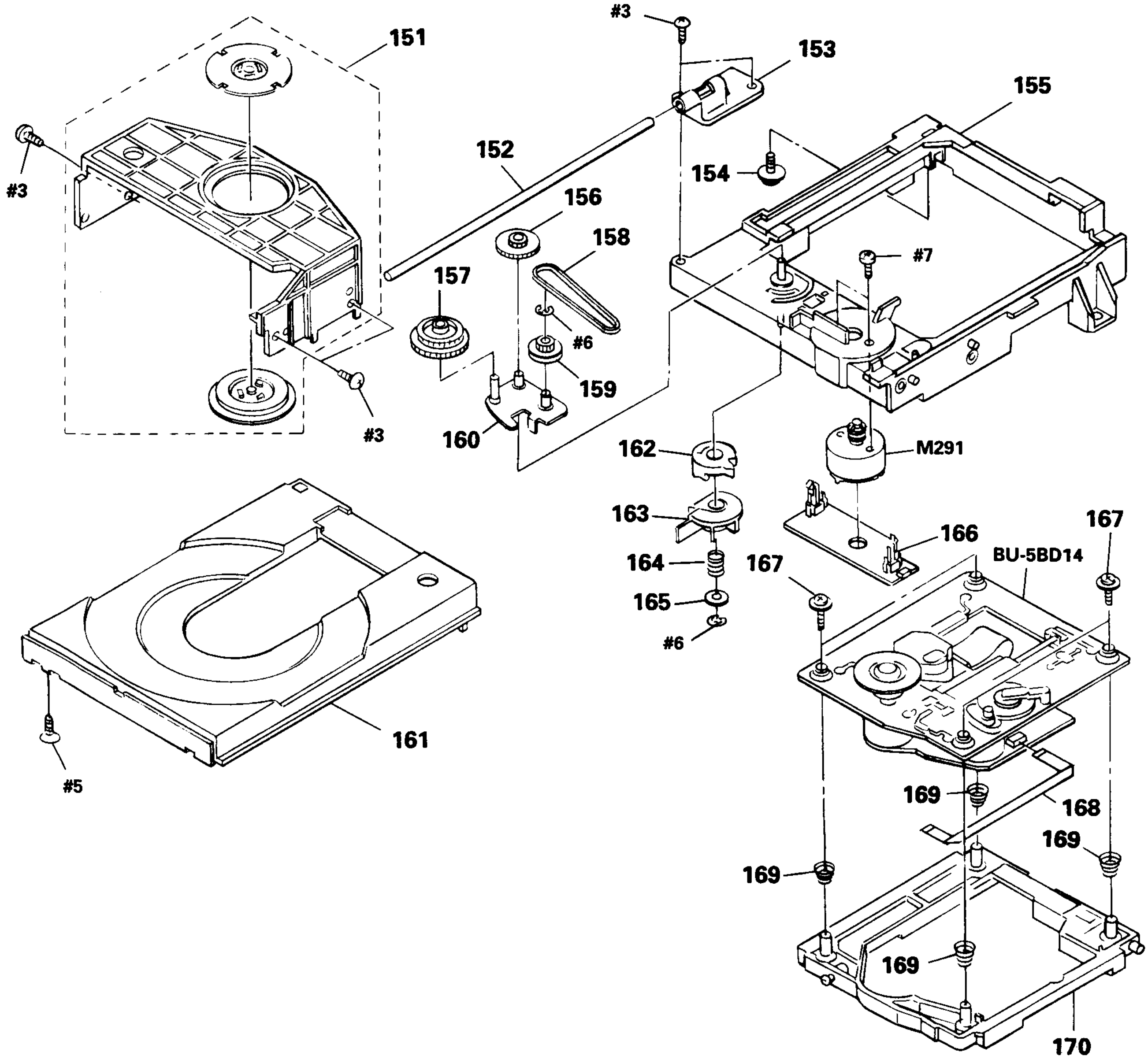
Ref. No.	Part No.	Description	Remarks
51	4-956-198-01	PANEL, LOADING	
52	1-696-890-11	WIRE (FLAT TYPE) (19 CORE)	
* 53	3-682-419-21	HOLDER, P.C.B	
54	1-696-889-11	WIRE (FLAT TYPE) (9 CORE)	
* 55	A-4356-719-A	TC MAIN BOARD, COMPLETE (E)	
* 55	A-4356-823-A	TC MAIN BOARD, COMPLETE (AEP, EE)	
* 55	A-4356-826-A	TC MAIN BOARD, COMPLETE (UK)	
* 55	A-4356-830-A	TC MAIN BOARD, COMPLETE (G, IT)	
56	1-696-888-11	WIRE (FLAT TYPE) (9 CORE)	
57	1-690-907-11	WIRE (FLAT TYPE) (17 CORE)	
* 58	3-309-144-31	HEAT SINK	
* 59	A-4356-825-A	POWER SUPPLY BOARD, COMPLETE (AEP, EE)	
* 59	A-4356-828-A	POWER SUPPLY BOARD, COMPLETE (UK)	
* 59	A-4356-832-A	POWER SUPPLY BOARD, COMPLETE (G, IT)	
* 59	A-4360-446-A	POWER SUPPLY BOARD, COMPLETE (E)	
* 60	4-956-199-12	PANEL, BACK (EXCEPT G)	
* 60	4-956-199-22	PANEL, BACK (G)	
* 61	3-350-857-01	HOLDER (A), PCB	
62	4-930-336-11	FOOT (FELT)	
Q701	8-729-209-15	TRANSISTOR 2SD2012	
Q703	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q705	8-729-209-15	TRANSISTOR 2SD2012	

5-3. CASSETTE DECK SECTION


107
not supplied
TCM-190RA12AS
106
104
103
105
109
#4
#1
102
101
108
#4
103
101
110
105
TCM-190RB22A
not supplied
107
106

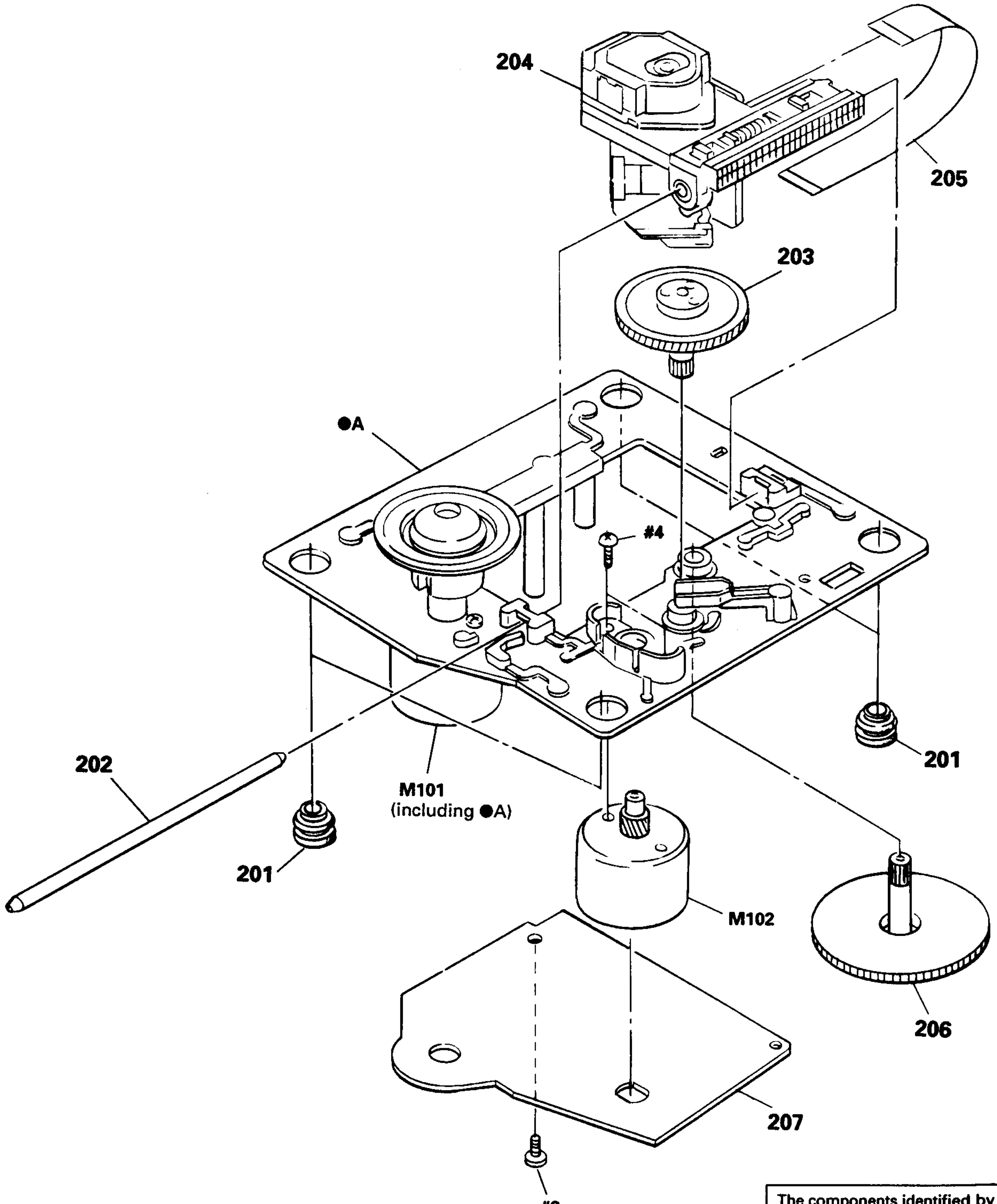
Ref. No.	Part No.	Description	Remarks
101	3-367-720-01	RING (W), RETAINING	
102	3-354-959-01	SPRING (LOADING L), TORSION	
103	3-340-137-01	SPRING, CASSETTE RETAINER	
104	X-3362-857-1	HOLDER (L) ASSY, CASSETTE	
105	3-367-711-01	RETAINER, CASSETTE	
106	3-367-721-01	SHAFT (FULCRUM SHAFT)	
107	3-354-957-01	JOINT (LOCK LEVER)	
108	3-354-960-01	SPRING (LOADING R), TORSION	
109	3-354-963-01	DAMPER	
110	X-3362-856-1	HOLDER (R) ASSY, CASSETTE	

5-4. CD MECHANISM SECTION (CDM13BC-5BD14)


#3
151
153
155
#3
152
154
156
158
#7
157
#6
159
#3
160
162
M291
163
166
167
BU-5BD14
164
167
165
#6
161
#5
169
168
169
169
169
170

Ref. No.	Part No.	Description	Remarks
151	A-4604-752-A	HOLDER (MG) ASSY	
152	4-929-764-01	SHAFT (TABLE GUIDE)	
153	4-944-006-11	BEARING	
* 154	4-917-583-21	BRACKET, YOKE	
155	X-4941-462-1	CHASSIS (MD) ASSY	
156	4-927-628-01	GEAR (C)	
157	4-927-620-01	GEAR (P)	
158	4-927-649-01	BELT	
159	4-929-724-01	PULLEY (B)	
160	X-4929-703-1	ARM ASSY, SWING	
161	4-944-012-01	TABLE, DISC	
162	4-929-727-01	CAM (A)	
163	4-929-729-01	CAM (B)	
164	3-659-338-00	SPRING, COMPRESSION	
165	4-927-654-01	WASHER (LIMITER)	
* 166	1-638-308-11	LOADING BOARD	
167	4-933-134-01	SCREW (+PTPWH M2.6X6)	
168	1-590-530-11	WIRE, (FLAT TYPE) (5 CORE)	
169	4-917-541-01	SPRING (B)	
170	4-929-747-01	HOLDER (BU)	
M291	A-4608-362-A	MOTOR (L) ASSY (LOADING)	

5-5. CD BASE UNIT SECTION (BU-5BD14)

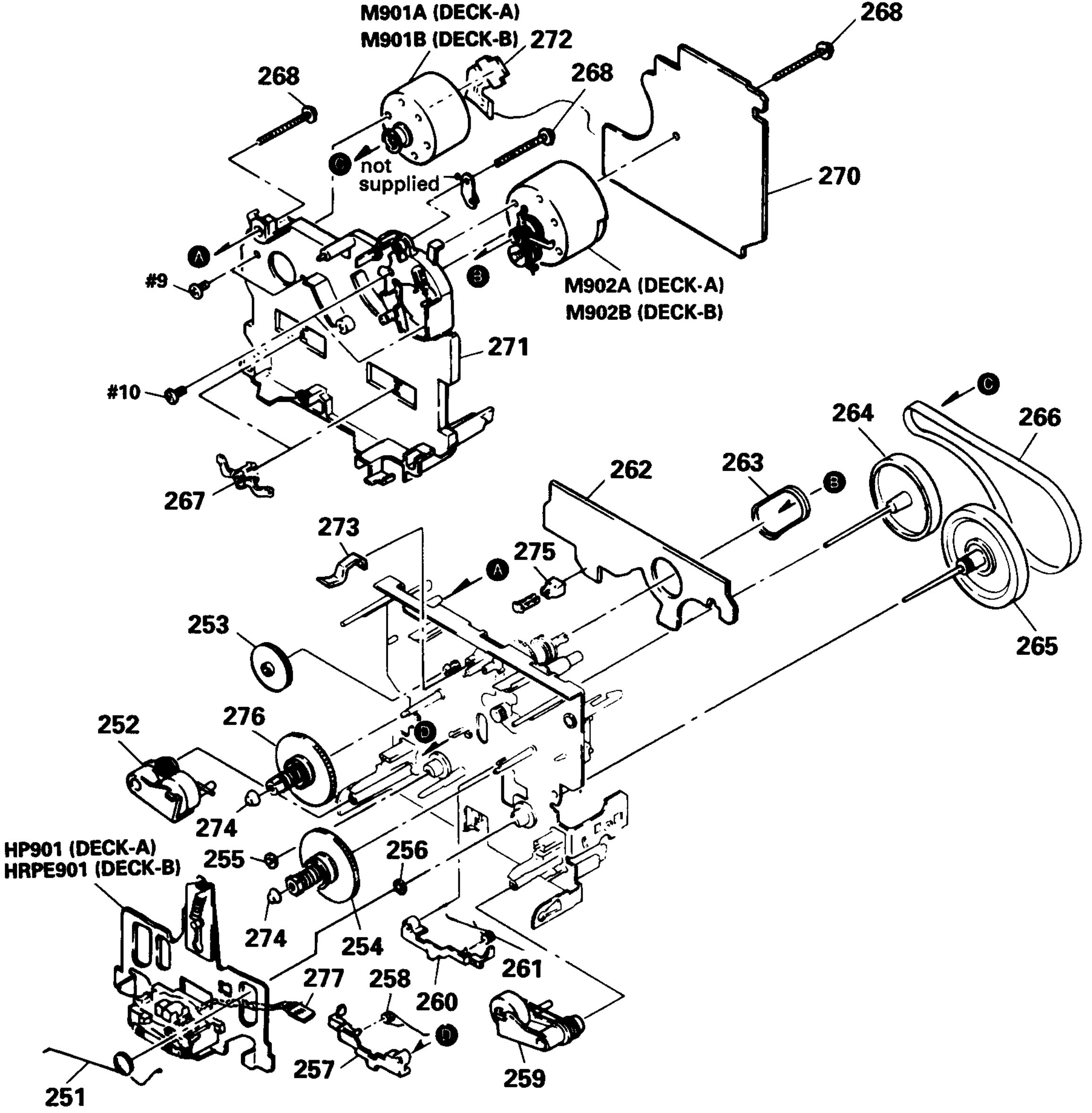

204
205
203
●A
#4
201
202
M101
(including ●A)
201
M102
206
207
#8

The components identified by mark ⚠or dotted line with mark ⚠are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
201	4-933-126-01	INSULATOR (A)	
202	4-917-565-01	SHAFT, SLED	
203	4-917-567-01	GEAR (M)	
⚠204	8-848-144-11	OPTICAL PICK-UP KSS-240A	
205	1-575-001-11	WIRE, (FLAT TYPE) (12 CORE)	
206	4-917-564-01	GEAR (P), FLATNESS	
* 207	A-4649-698-A	MOUNTED PCB (A), BD	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

5-6. CASSETTE DECK MECHANISM SECTION-1

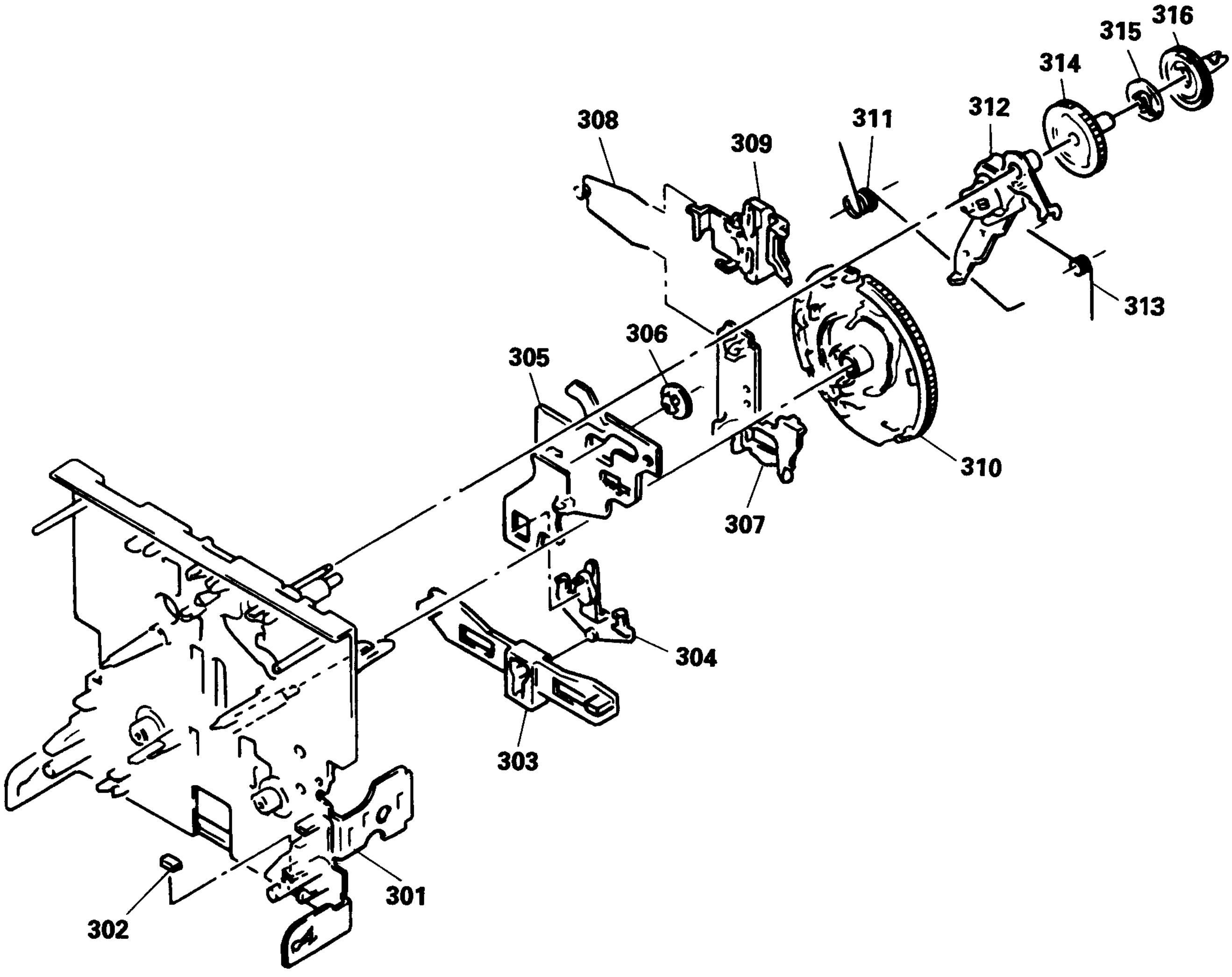
DECK-A : TCM-190RA12AS
DECK-B : TCM-190RB22A


M901A (DECK-A)
M901B (DECK-B)
272
268
268
268
270
not supplied
M902A (DECK-A)
M902B (DECK-B)
#9
#10
271
267
264
266
262
263
273
275
253
265
252
276
274
HP901 (DECK-A)
HRPE901 (DECK-B)
255
256
274
254
277
258
261
260
257
259
251
A
B
C
D

Ref. No.	Part No.	Description	Remarks
251	3-359-455-01	SPRING, TORSION	
252	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
253	3-359-424-01	GEAR (REV GEAR)	
254	X-3359-404-1	TABLE ASSY, REEL	
255	3-356-714-01	WASHER	
256	3-356-713-01	WASHER	
257	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
258	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
259	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
260	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
261	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
* 262	1-634-841-14	LEAF SW(A) BOARD (DECK-A)	
* 262	1-634-841-14	LEAF SW(B) BOARD (DECK-B)	
263	3-359-466-01	BELT (FR), SQUARE	
264	X-3359-410-1	FLYWHEEL (REV) ASSY	
265	X-3359-406-1	FLYWHEEL (FWD) ASSY	
266	3-359-417-01	BELT (FLAT), CAPSTAN	
267	3-575-321-00	RETAINER, THRUST, CAPSTAN	
268	3-359-414-01	SCREW (+PTPWH 2X23)	
* 270	A-2006-399-A	MOUNTED PCB (RA12A), AUDIO (DECK-A)	
* 270	A-2006-400-A	MOUNTED PCB (RB22A), AUDIO (DECK-B)	
* 271	3-359-436-01	BASE (THRUST RETAINER), FITTING	
272	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	
273	3-359-430-01	SPRING(CASSETTE RETAINER), LEAF	
274	3-362-308-01	CAP (REEL)	
275	3-343-419-01	HOLDER (S SENSOR A)	
276	X-3362-078-1	TABLE ASSY (B), REEL	
* 277	1-690-419-11	WIRE, LEAD(WITH CONNECTOR) (4 CORE)	
HP901	A-2003-958-B	BASE ASSY, HEAD (DECK-A)	
HRPE901	A-2003-838-A	BASE ASSY, HEAD (DECK-B)	
M901A	X-3359-417-1	CAPSTAN MOTOR ASSY (DECK-A)	
M901B	X-3359-417-1	CAPSTAN MOTOR ASSY (DECK-B)	
M902A	X-3363-501-1	REEL MOTOR ASSY (DECK-A)	
M902B	X-3363-501-1	REEL MOTOR ASSY (DECK-B)	

5-7. CASSETTE DECK MECHANISM SECTION-2

DECK-A : TCM-190RA12AS
DECK-B : TCM-190RB22A



Ref. No.	Part No.	Description	Remarks
301	X-3363-790-1	CHASSIS ASSY, MECHANICAL	
302	3-359-469-01	SPACER	
* 303	3-359-425-01	SLIDER (REVERSE SLIDER)	
304	3-359-426-01	LEVER (REVERSE LEVER)	
* 305	3-359-415-01	SLIDER (TRIGGER SLIDER)	
306	3-359-448-01	GEAR (TRIGGER)	
* 307	3-359-427-01	SLIDER (REVERSE SLIDER)	
308	3-359-454-01	SPRING, TORSION	
309	3-359-429-01	SLIDER (BRAKE PLATE)	
310	3-359-420-01	GEAR (CAM GEAR)	
311	3-359-456-01	SPRING(TRIGGER SPRING), TORSION	
312	X-3359-405-1	LEVER (FR ARM) ASSY	
313	3-359-453-01	SPRING (FR ARM), TORSION	
314	3-359-419-01	GEAR (FR GEAR)	
315	3-359-421-01	CLUTCH (REEL DISK)	
316	3-359-418-01	PULLEY (FR PULLEY)	

TC MAIN

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- EE : East European
- G : German
- IT : Italian
- Saudi Arabia, Australian, Tourist models are identical to E model.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description				Remarks
*	A-4356-719-A	TC MAIN BOARD, COMPLETE				(E)
*	A-4356-823-A	TC MAIN BOARD, COMPLETE				(AEP, EE)
*	A-4356-826-A	TC MAIN BOARD, COMPLETE				(UK)
*	A-4356-830-A	TC MAIN BOARD, COMPLETE				(G, IT)
		***********************				
		< CAPACITOR >				
C101	1-136-157-00	FILM	0.022uF	5%	50V	
C102	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	(EXCEPT E)
C102	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	(E)
C103	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	(EXCEPT E)
C103	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	(E)
C104	1-106-351-00	MYLAR	2200PF	5%	200V	(EXCEPT E)
C105	1-106-351-00	MYLAR	2200PF	5%	200V	(EXCEPT E)
C105	1-131-587-11	TANTALUM	0.68uF	5%	35V	(E)
C106	1-124-925-11	ELECT	2.2uF	20%	100V	(EXCEPT E)
C106	1-124-907-11	ELECT	10uF	20%	50V	(E)
C107	1-136-174-00	FILM	0.56uF	5%	50V	(EXCEPT E)
C108	1-136-171-00	FILM	0.33uF	5%	50V	(EXCEPT E)
C109	1-124-927-11	ELECT	4.7uF	20%	100V	
C110	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C111	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C112	1-124-903-11	ELECT	1uF	20%	50V	
C113	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C114	1-124-907-11	ELECT	10uF	20%	50V	
C115	1-124-443-00	ELECT	100uF	20%	10V	
C116	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C117	1-124-925-11	ELECT	2.2uF	20%	100V	
C118	1-124-257-00	ELECT	2.2uF	20%	50V	
C201	1-136-157-00	FILM	0.022uF	5%	50V	
C202	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	(EXCEPT E)
C202	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	(E)
C203	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	(EXCEPT E)
C203	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	(E)
C204	1-106-351-00	MYLAR	2200PF	5%	200V	(EXCEPT E)
C205	1-106-351-00	MYLAR	2200PF	5%	200V	(EXCEPT E)
C205	1-131-587-11	TANTALUM	0.68uF	5%	35V	(E)
C206	1-124-925-11	ELECT	2.2uF	20%	100V	(EXCEPT E)
C206	1-124-907-11	ELECT	10uF	20%	50V	(E)
C207	1-136-174-00	FILM	0.56uF	5%	50V	(EXCEPT E)
C208	1-136-171-00	FILM	0.33uF	5%	50V	(EXCEPT E)
C209	1-124-927-11	ELECT	4.7uF	20%	100V	
C210	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C211	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C212	1-124-903-11	ELECT	1uF	20%	50V	
C213	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C214	1-124-907-11	ELECT	10uF	20%	50V	
C215	1-124-443-00	ELECT	100uF	20%	10V	
C216	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C217	1-124-925-11	ELECT	2.2uF	20%	100V	
C218	1-124-257-00	ELECT	2.2uF	20%	50V	
C601	1-126-157-11	ELECT	10uF	20%	16V	(EXCEPT E)
C601	1-124-443-00	ELECT	100uF	20%	10V	(E)
C602	1-124-907-11	ELECT	10uF	20%	50V	(EXCEPT E)
C602	1-124-443-00	ELECT	100uF	20%	10V	(E)
C603	1-124-903-11	ELECT	1uF	20%	50V	
C604	1-124-903-11	ELECT	1uF	20%	50V	
C605	1-124-903-11	ELECT	1uF	20%	50V	
C606	1-124-903-11	ELECT	1uF	20%	50V	
C608	1-124-927-11	ELECT	4.7uF	20%	100V	
C609	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C610	1-163-111-00	CERAMIC CHIP	56PF	5%	50V	
C611	1-163-111-00	CERAMIC CHIP	56PF	5%	50V	
C612	1-126-177-11	ELECT	100uF	20%	10V	
C613	1-126-177-11	ELECT	100uF	20%	10V	
C615	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C616	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C617	1-124-477-11	ELECT	47uF	20%	25V	
C618	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C620	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C621	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C622	1-124-472-11	ELECT	470uF	20%	10V	
C623	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C624	1-124-472-11	ELECT	470uF	20%	10V	
C625	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C626	1-164-232-11	CERAMIC CHIP	0.01uF		50V	

Ref.No.	Part No.	Description			Remarks
C627	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C629	1-126-157-11	ELECT	10uF	20%	16V
C630	1-124-916-11	ELECT	22uF	20%	63V
C631	1-124-903-11	ELECT	1uF	20%	50V
C636	1-124-916-11	ELECT	22uF	20%	63V
C803	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C6009	1-124-907-11	ELECT	10uF	20%	50V
C6010	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C6011	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C6012	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C6013	1-124-478-11	ELECT	100uF	20%	25V
C6021	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C6022	1-124-927-11	ELECT	4.7uF	20%	100V
C6023	1-126-163-11	ELECT	4.7uF	20%	50V
C6024	1-124-257-00	ELECT	2.2uF	20%	50V
C6025	1-124-257-00	ELECT	2.2uF	20%	50V
C6026	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C6027	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C6029	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C6030	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C6031	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C6033	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C6034	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C6035	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C6036	1-124-257-00	ELECT	2.2uF	20%	50V
C6061	1-124-443-00	ELECT	100uF	20%	10V
C6062	1-124-902-00	ELECT	0.47uF	20%	50V

< CONNECTOR >

Ref.No.	Part No.	Description
CN601	1-573-101-11	SOCKET, CONNECTOR 9P
CN602	1-580-783-11	CONNECTOR, BOARD TO BOARD 10P
CN603	1-573-101-11	SOCKET, CONNECTOR 9P
CN604	1-580-783-11	CONNECTOR, BOARD TO BOARD 10P
CN605	1-568-860-11	SOCKET, CONNECTOR 17P
* CN606	1-580-480-11	SOCKET, CONNECTOR 9P
CN607	1-580-783-11	CONNECTOR, BOARD TO BOARD 10P

< DIODE >

Ref.No.	Part No.	Description	
D601	8-719-422-91	DIODE	MA8091 (EXCEPT E)
D601	8-719-400-71	DIODE	MA3082 (E)
D602	8-719-016-74	DIODE	1SS352
D603	8-719-016-74	DIODE	1SS352
D604	8-719-016-74	DIODE	1SS352
D605	8-719-400-46	DIODE	MA3056-L
D607	8-719-210-33	DIODE	EC10DS2
D608	8-719-210-33	DIODE	EC10DS2
D609	8-719-016-74	DIODE	1SS352
D612	8-719-016-84	DIODE	02DZ2.0-TPH3
D6010	8-719-016-74	DIODE	1SS352
D6011	8-719-016-74	DIODE	1SS352
D6400	8-719-400-71	DIODE	MA3082 (E)

< IC >

Ref.No.	Part No.	Description	
IC101	8-759-300-71	IC	HD14053BFP
IC102	8-752-037-90	IC	CXA1331M (EXCEPT E)
IC102	8-752-050-13	IC	CXA1101M (E)
IC103	8-752-055-60	IC	CXA1578M
IC104	8-759-636-55	IC	M5218AFP
IC105	8-759-516-47	IC	CD4066BCM
IC106	8-759-998-71	IC	BA3308F
IC601	8-759-163-38	IC	M38022M4-072FP
IC602	8-759-636-67	IC	M50925-482FP
IC603	8-759-207-05	IC	TA7272P
IC604	8-759-636-55	IC	M5218AFP
IC605	8-759-516-41	IC	CD4052BCM
IC6001	8-759-520-90	IC	PST572E

< JUMPER RESISTOR >

Ref.No.	Part No.	Description			Remarks
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W
JW3	1-216-296-00	METAL CHIP	0	5%	1/8W
JW4	1-216-296-00	METAL CHIP	0	5%	1/8W
JW5	1-216-296-00	METAL CHIP	0	5%	1/8W

< COIL >

Ref.No.	Part No.	Description	
L6001	1-410-482-31	INDUCTOR	100uH
L6002	1-410-470-11	INDUCTOR	10uH

< TRANSISTOR >

Ref.No.	Part No.	Description	
Q101	8-729-805-41	TRANSISTOR	2SC3398
Q102	8-729-620-05	TRANSISTOR	2SC2603-EF
Q201	8-729-805-41	TRANSISTOR	2SC3398
Q202	8-729-620-05	TRANSISTOR	2SC2603-EF
Q601	8-729-805-65	TRANSISTOR	2SA1344 (EXCEPT E)
Q602	8-729-805-65	TRANSISTOR	2SA1344 (EXCEPT E)
Q603	8-729-805-41	TRANSISTOR	2SC3398 (EXCEPT E)
Q604	8-729-805-65	TRANSISTOR	2SA1344
Q605	8-729-901-06	TRANSISTOR	DTA144EK
Q607	8-729-805-65	TRANSISTOR	2SA1344
Q608	8-729-805-65	TRANSISTOR	2SA1344
Q609	8-729-805-41	TRANSISTOR	2SC3398
Q611	8-729-805-65	TRANSISTOR	2SA1344
Q612	8-729-805-41	TRANSISTOR	2SC3398
Q613	8-729-805-41	TRANSISTOR	2SC3398
Q616	8-729-804-41	TRANSISTOR	2SB1122-S
Q617	8-729-804-41	TRANSISTOR	2SB1122-S
Q620	8-729-805-65	TRANSISTOR	2SA1344
Q625	8-729-602-36	TRANSISTOR	2SA1602-F
Q627	8-729-901-06	TRANSISTOR	DTA144EK

TC MAIN

Ref.No.	Part No.	Description			Remarks
Q641	8-729-805-41	TRANSISTOR	2SC3398		
		< RESISTOR >			
R101	1-216-089-00	METAL CHIP	47K	5%	1/10W
R102	1-216-089-00	METAL CHIP	47K	5%	1/10W
R103	1-216-056-00	METAL GLAZE	2K	5%	1/10W
R104	1-216-060-00	METAL GLAZE	3K	5%	1/10W
R105	1-216-105-00	METAL CHIP	220K	5%	1/10W
R106	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R107	1-216-082-00	METAL GLAZE	24K	5%	1/10W(EXCEPT E)
R108	1-216-043-00	METAL CHIP	560	5%	1/10W(EXCEPT E)
R109	1-216-073-00	METAL CHIP	10K	5%	1/10W
R110	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R111	1-216-097-00	METAL CHIP	100K	5%	1/10W
R112	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R114	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R115	1-216-105-00	METAL CHIP	220K	5%	1/10W
R116	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R117	1-216-049-00	METAL CHIP	1K	5%	1/10W
R118	1-216-093-00	METAL CHIP	68K	5%	1/10W
R119	1-216-049-00	METAL CHIP	1K	5%	1/10W
R120	1-216-083-00	METAL CHIP	27K	5%	1/10W(EXCEPT E)
R120	1-216-084-00	METAL CHIP	30K	5%	1/10W (E)
R128	1-216-105-00	METAL CHIP	220K	5%	1/10W(EXCEPT E)
R128	1-216-075-00	METAL CHIP	12K	5%	1/10W (E)
R129	1-216-049-00	METAL CHIP	1K	5%	1/10W(EXCEPT E)
R129	1-216-052-00	METAL CHIP	1.3K	5%	1/10W (E)
R201	1-216-089-00	METAL CHIP	47K	5%	1/10W
R202	1-216-089-00	METAL CHIP	47K	5%	1/10W
R203	1-216-056-00	METAL GLAZE	2K	5%	1/10W
R204	1-216-060-00	METAL GLAZE	3K	5%	1/10W
R205	1-216-105-00	METAL CHIP	220K	5%	1/10W
R206	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R207	1-216-082-00	METAL GLAZE	24K	5%	1/10W(EXCEPT E)
R208	1-216-043-00	METAL CHIP	560	5%	1/10W(EXCEPT E)
R209	1-216-073-00	METAL CHIP	10K	5%	1/10W
R210	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R211	1-216-097-00	METAL CHIP	100K	5%	1/10W
R212	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R213	1-216-089-00	METAL CHIP	47K	5%	1/10W
R214	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R215	1-216-105-00	METAL CHIP	220K	5%	1/10W
R216	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R217	1-216-049-00	METAL CHIP	1K	5%	1/10W
R218	1-216-093-00	METAL CHIP	68K	5%	1/10W
R219	1-216-049-00	METAL CHIP	1K	5%	1/10W
R220	1-216-083-00	METAL CHIP	27K	5%	1/10W(EXCEPT E)
R220	1-216-084-00	METAL CHIP	30K	5%	1/10W (E)
R228	1-216-105-00	METAL CHIP	220K	5%	1/10W(EXCEPT E)
R228	1-216-075-00	METAL CHIP	12K	5%	1/10W (E)
R229	1-216-049-00	METAL CHIP	1K	5%	1/10W(EXCEPT E)
R229	1-216-052-00	METAL CHIP	1.3K	5%	1/10W (E)
R601	1-216-081-00	METAL CHIP	22K	5%	1/10W
R602	1-216-081-00	METAL CHIP	22K	5%	1/10W
R603	1-216-073-00	METAL CHIP	10K	5%	1/10W (E)
R605	1-216-081-00	METAL CHIP	22K	5%	1/10W(EXCEPT E)
R605	1-216-089-00	METAL CHIP	47K	5%	1/10W(E)
R606	1-216-081-00	METAL CHIP	22K	5%	1/10W(EXCEPT E)
R606	1-216-089-00	METAL CHIP	47K	5%	1/10W(E)
R607	1-216-081-00	METAL CHIP	22K	5%	1/10W(EXCEPT E)
R607	1-216-073-00	METAL CHIP	10K	5%	1/10W (E)
R608	1-216-049-00	METAL CHIP	1K	5%	1/10W(EXCEPT E)
R608	1-216-088-00	METAL CHIP	43K	5%	1/10W (E)
R609	1-216-083-00	METAL CHIP	27K	5%	1/10W(EXCEPT E)
R610	1-216-083-00	METAL CHIP	27K	5%	1/10W
R611	1-216-081-00	METAL CHIP	22K	5%	1/10W
R612	1-216-081-00	METAL CHIP	22K	5%	1/10W
R613	1-216-089-00	METAL CHIP	47K	5%	1/10W
R614	1-216-121-00	METAL CHIP	1M	5%	1/10W
R615	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R616	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R617	1-216-097-00	METAL CHIP	100K	5%	1/10W
R618	1-216-097-00	METAL CHIP	100K	5%	1/10W
R619	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R620	1-216-105-00	METAL CHIP	220K	5%	1/10W
R621	1-216-073-00	METAL CHIP	10K	5%	1/10W
R622	1-216-097-00	METAL CHIP	100K	5%	1/10W
R623	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R624	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R625	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R626	1-216-043-00	METAL CHIP	560	5%	1/10W
R628	1-216-073-00	METAL CHIP	10K	5%	1/10W
R629	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R630	1-216-081-00	METAL CHIP	22K	5%	1/10W
R631	1-216-081-00	METAL CHIP	22K	5%	1/10W
R632	1-216-089-00	METAL CHIP	47K	5%	1/10W
R633	1-216-091-00	METAL CHIP	56K	5%	1/10W
R634	1-216-081-00	METAL CHIP	22K	5%	1/10W
R635	1-216-081-00	METAL CHIP	22K	5%	1/10W
R636	1-216-081-00	METAL CHIP	22K	5%	1/10W
R637	1-216-081-00	METAL CHIP	22K	5%	1/10W
R638	1-216-081-00	METAL CHIP	22K	5%	1/10W
R639	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R640	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R641	1-216-073-00	METAL CHIP	10K	5%	1/10W
R642	1-216-089-00	METAL CHIP	47K	5%	1/10W
R643	1-216-089-00	METAL CHIP	47K	5%	1/10W
R644	1-216-025-00	METAL CHIP	100	5%	1/10W
R645	1-216-089-00	METAL CHIP	47K	5%	1/10W

Ref.No.	Part No.	Description				Remarks
R646	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R647	1-216-025-00	METAL CHIP	100	5%	1/10W	
R648	1-216-025-00	METAL CHIP	100	5%	1/10W	
R649	1-216-025-00	METAL CHIP	100	5%	1/10W	
R650	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R651	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R652	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R653	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R654	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R655	1-216-001-00	METAL CHIP	10	5%	1/10W	
R656	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R661	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R662	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R663	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R664	1-216-045-00	METAL CHIP	680	5%	1/10W	
R665	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R666	1-216-045-00	METAL CHIP	680	5%	1/10W	
R667	1-216-025-00	METAL CHIP	100	5%	1/10W	
R668	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R669	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R670	1-216-084-00	METAL CHIP	30K	5%	1/10W	
R671	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R672	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R673	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R674	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R675	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R676	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R677	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R678	1-216-084-00	METAL CHIP	30K	5%	1/10W	
R679	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R680	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R681	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R682	1-216-025-00	METAL CHIP	100	5%	1/10W	
R683	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R684	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R685	1-216-025-00	METAL CHIP	100	5%	1/10W	
R686	1-216-025-00	METAL CHIP	100	5%	1/10W	
R687	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R689	1-216-025-00	METAL CHIP	100	5%	1/10W	
R690	1-216-295-00	METAL CHIP	0	5%	1/10W	
R691	1-216-025-00	METAL CHIP	100	5%	1/10W	
R692	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R693	1-216-025-00	METAL CHIP	100	5%	1/10W	
R696	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R700	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R801	1-216-001-00	METAL CHIP	10	5%	1/10W	
R802	1-216-295-00	METAL CHIP	0	5%	1/10W	
R809	1-216-295-00	METAL CHIP	0	5%	1/10W	
R6004	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R6005	1-216-089-00	METAL CHIP	47K	5%	1/10W	

Ref.No.	Part No.	Description				Remarks
R6010	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R6012	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R6013	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R6014	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R6016	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R6050	1-216-025-00	METAL CHIP	100	5%	1/10W	
R6061	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R6062	1-216-035-00	METAL CHIP	270	5%	1/10W	
R6063	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R6070	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R6071	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	

< VARIABLE RESISTOR >

Ref.No.	Part No.	Description
RV101	1-241-136-11	RES, ADJ, CARBON 10K (REC LEVEL L)
RV201	1-241-136-11	RES, ADJ, CARBON 10K (REC LEVEL R)

< TEST PIN >

Ref.No.	Part No.	Description
* TP601	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P (FOR TEST MODE)

< VIBRATOR >

Ref.No.	Part No.	Description
X601	1-577-358-21	VIBRATOR, CERAMIC (4MHz)
X901	1-577-101-11	VIBRATOR, CERAMIC (4.19MHz)

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Ref.No.	Part No.	Description
*	A-4356-825-A	POWER SUPPLY BOARD, COMPLETE (AEP,EE)
*	A-4356-828-A	POWER SUPPLY BOARD, COMPLETE (UK)
*	A-4356-832-A	POWER SUPPLY BOARD, COMPLETE (G, IT)
*	A-4360-446-A	POWER SUPPLY BOARD, COMPLETE (E)

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Ref.No.	Part No.	Description
*	3-309-144-31	HEAT SINK
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S

< CAPACITOR >

Ref.No.	Part No.	Description			
C701	1-126-937-11	ELECT	4700uF	20%	16V
C702	1-126-937-11	ELECT	4700uF	20%	16V
C703	1-126-954-11	ELECT	3300uF	20%	35V
C704	1-124-910-11	ELECT	47uF	20%	50V
C705	1-124-910-11	ELECT	47uF	20%	50V
C706	1-124-910-11	ELECT	47uF	20%	50V
C707	1-124-910-11	ELECT	47uF	20%	50V
C708	1-126-101-11	ELECT	220uF	20%	10V
C709	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C710	1-126-101-11	ELECT	220uF	20%	10V
C711	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C712	1-124-478-11	ELECT	100uF	20%	25V
C714	1-124-918-11	ELECT	47uF	20%	63V
C715	1-124-910-11	ELECT	47uF	20%	50V
C716	1-124-478-11	ELECT	100uF	20%	25V

POWER SUPPLY

Ref. No.	Part No.	Description			Remarks
C717	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C718	1-126-301-11	ELECT	1uF	20%	50V
C720	1-126-301-11	ELECT	1uF	20%	50V
C721	1-124-994-11	ELECT	100uF	20%	10V
C722	1-126-301-11	ELECT	1uF	20%	50V
C723	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C724	1-126-161-11	ELECT	2.2uF	20%	50V
C727	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C728	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C729	1-124-478-11	ELECT	100uF	20%	25V
C750	1-124-910-11	ELECT	47uF	20%	50V
C751	1-124-910-11	ELECT	47uF	20%	50V
C790	1-124-997-11	ELECT	470uF	20%	10V
		< CONNECTOR >			
* CN701	1-569-624-11	SOCKET, CONNECTOR 17P			
* CN702	1-573-085-11	CONNECTOR, FPC (NON ZIF) 19P			
CN703	1-580-460-21	SOCKET, CONNECTOR 26P			
CN704	1-580-468-21	SOCKET, CONNECTOR 9P			
* CN705	1-568-830-11	SOCKET, CONNECTOR 11P			
* CN706	1-568-836-11	SOCKET, CONNECTOR 17P			
		< DIODE >			
D701	8-719-210-33	DIODE	EC10DS2		
D702	8-719-210-33	DIODE	EC10DS2		
D703	8-719-210-33	DIODE	EC10DS2		
D704	8-719-210-33	DIODE	EC10DS2		
D705	8-719-404-35	DIODE	MA141WK		
D706	8-719-404-35	DIODE	MA141WK		
D707	8-719-210-33	DIODE	EC10DS2		
D708	8-719-210-33	DIODE	EC10DS2		
D709	8-719-210-33	DIODE	EC10DS2		
D710	8-719-210-33	DIODE	EC10DS2		
D711	8-719-400-62	DIODE	MA3068-L		
D712	8-719-400-46	DIODE	MA3056-L		
D713	8-719-400-46	DIODE	MA3056-L		
D714	8-719-210-33	DIODE	EC10DS2		
D715	8-719-210-33	DIODE	EC10DS2		
D716	8-719-403-03	DIODE	MA3240H-TX		
D717	8-719-400-46	DIODE	MA3056-L		
D718	8-719-421-30	DIODE	MA141A		
		< IC >			
IC701	8-759-996-43	IC	RC4558PS		
IC702	8-759-821-93	IC	LA5601		
		< IC LINK >			
⚠ICP701	1-532-841-21	LINK, IC			
⚠ICP702	1-532-841-21	LINK, IC			

Ref. No.	Part No.	Description			Remarks
		< JUMPER RESISTOR >			
JRS1	1-216-296-00	METAL CHIP	0	5%	1/8W
JRS3	1-216-296-00	METAL CHIP	0	5%	1/8W
JRS5	1-216-296-00	METAL CHIP	0	5%	1/8W
JRS6	1-216-296-00	METAL CHIP	0	5%	1/8W
JW1	1-216-296-00	METAL CHIP	0	5%	1/8W
JW2	1-216-296-00	METAL CHIP	0	5%	1/8W
		< TRANSISTOR >			
Q701	8-729-209-15	TRANSISTOR	2SD2012		
Q702	8-729-602-21	TRANSISTOR	2SC4154-K		
Q703	8-729-141-83	TRANSISTOR	2SB1094-LK		
Q704	8-729-805-44	TRANSISTOR	2SC3397		
Q705	8-729-209-15	TRANSISTOR	2SD2012		
Q706	8-729-118-00	TRANSISTOR	2SB1116-L		
Q707	8-729-602-21	TRANSISTOR	2SC4154-F		
Q708	8-729-602-21	TRANSISTOR	2SC4154-F		
Q710	8-729-805-65	TRANSISTOR	2SA1344		
Q711	8-729-805-65	TRANSISTOR	2SA1344		
Q712	8-729-805-65	TRANSISTOR	2SA1344		
Q713	8-729-805-65	TRANSISTOR	2SA1344		
Q714	8-729-805-65	TRANSISTOR	2SA1344		
Q715	8-729-805-65	TRANSISTOR	2SA1344		
Q7000	8-729-209-15	TRANSISTOR	2SD2012		
		< RESISTOR >			
JRS5	1-216-134-00	METAL CHIP	2.2	5%	1/8W
* R701	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R702	1-216-089-00	METAL CHIP	47K	5%	1/10W
R703	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R704	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R705	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R706	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R707	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R708	1-216-073-00	METAL CHIP	10K	5%	1/10W
R709	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R710	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R711	1-216-049-00	METAL CHIP	1K	5%	1/10W
R712	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R713	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R714	1-216-041-00	METAL CHIP	470	5%	1/10W
R715	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R716	1-216-081-00	METAL CHIP	22K	5%	1/10W
R717	1-216-081-00	METAL CHIP	22K	5%	1/10W
R718	1-216-073-00	METAL CHIP	10K	5%	1/10W
R719	1-216-295-00	METAL CHIP	0	5%	1/10W
R722	1-216-037-00	METAL CHIP	330	5%	1/10W
R723	1-216-037-00	METAL CHIP	330	5%	1/10W
R724	1-216-037-00	METAL CHIP	330	5%	1/10W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			Remarks
R725	1-216-037-00	METAL CHIP	330	5%	1/10W
R726	1-216-037-00	METAL CHIP	330	5%	1/10W
R727	1-216-037-00	METAL CHIP	330	5%	1/10W
R734	1-216-085-00	METAL CHIP	33K	5%	1/10W
R735	1-216-085-00	METAL CHIP	33K	5%	1/10W
R736	1-216-085-00	METAL CHIP	33K	5%	1/10W
R737	1-216-085-00	METAL CHIP	33K	5%	1/10W
R738	1-216-085-00	METAL CHIP	33K	5%	1/10W
R739	1-216-085-00	METAL CHIP	33K	5%	1/10W
R740	1-216-085-00	METAL CHIP	33K	5%	1/10W
R741	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R750	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R795	1-216-025-00	METAL CHIP	100	5%	1/10W
R796	1-216-073-00	METAL CHIP	10K	5%	1/10W
R797	1-216-073-00	METAL CHIP	10K	5%	1/10W
R798	1-216-073-00	METAL CHIP	10K	5%	1/10W
R799	1-216-073-00	METAL CHIP	10K	5%	1/10W

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*	A-4356-720-A	TC PANEL BOARD, COMPLETE (E)
*	A-4356-824-A	TC PANEL BOARD, COMPLETE (AEP,EE)
*	A-4356-827-A	TC PANEL BOARD, COMPLETE (UK)
*	A-4356-831-A	TC PANEL BOARD, COMPLETE (G,IT)

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< CONNECTOR >

CN901	1-691-646-11	SOCKET, CONNECTOR 11P

< DIODE >

D901	8-719-026-64	LED	SML1260S	(● REC)
D902	8-719-026-68	LED	SML1960A	(❚❚ PAUSE)
D903	8-719-301-42	LED	SEL2410E	(◁ DECK-B)
D904	8-719-301-42	LED	SEL2410E	(▷ DECK-B)
D905	8-719-301-42	LED	SEL2410E	(◁ DECK-A)
D906	8-719-301-42	LED	SEL2410E	(▷ DECK-A)

< RESISTOR >

R901	1-216-049-00	METAL CHIP	1K	5%	1/10W
R902	1-216-054-00	METAL GLAZE	1.6K	5%	1/10W
R903	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R905	1-216-029-00	METAL CHIP	150	5%	1/10W
R906	1-216-033-00	METAL CHIP	220	5%	1/10W
R907	1-216-037-00	METAL CHIP	330	5%	1/10W
R908	1-216-041-00	METAL CHIP	470	5%	1/10W
R909	1-216-045-00	METAL CHIP	680	5%	1/10W
R910	1-216-049-00	METAL CHIP	1K	5%	1/10W
R912	1-216-029-00	METAL CHIP	150	5%	1/10W
R913	1-216-033-00	METAL CHIP	220	5%	1/10W
R914	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R915	1-216-049-00	METAL CHIP	1K	5%	1/10W
R916	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R918	1-216-055-00	METAL CHIP	1.8K	5%	1/10W(EXCEPT E)
R918	1-216-059-00	METAL CHIP	2.7K	5%	1/10W (E)
R919	1-216-029-00	METAL CHIP	150	5%	1/10W

< SWITCH >

S901	1-554-303-21	SWITCH, TACTILE (DUBBING)
S902	1-554-303-21	SWITCH, TACTILE (COUNTER RESET)
S903	1-554-303-21	SWITCH, TACTILE (DISPLAY A/B)
S904	1-554-303-21	SWITCH, TACTILE (DIRECTION)
S905	1-554-303-21	SWITCH, TACTILE (■ DECK-B)
S906	1-554-303-21	SWITCH, TACTILE (▷ DECK-B)
S907	1-554-303-21	SWITCH, TACTILE (◁ DECK-B)
S908	1-554-303-21	SWITCH, TACTILE (❚❚ PAUSE)
S909	1-554-303-21	SWITCH, TACTILE (○ MUTE)
S910	1-554-303-21	SWITCH, TACTILE (AMS ◀◀ DECK-A)
S911	1-554-303-21	SWITCH, TACTILE (AMS ▶▶ DECK-A)
S912	1-554-303-21	SWITCH, TACTILE (■ DECK-A)
S913	1-554-303-21	SWITCH, TACTILE (▷ DECK-A)
S914	1-554-303-21	SWITCH, TACTILE (◁ DECK-A)
S915	1-554-303-21	SWITCH, TACTILE (AMS ◀◀ DECK-B)
S916	1-554-303-21	SWITCH, TACTILE (AMS ▶▶ DECK-B)
S917	1-554-303-21	SWITCH, TACTILE (● REC)
S918	1-554-303-21	SWITCH, TACTILE (DOLBY NR)
S919	1-554-303-21	SWITCH, TACTILE (CD SYNCHRO)

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*	A-4356-722-A	CD PANEL BOARD, COMPLETE (E)
*	A-4356-829-A	CD PANEL BOARD, COMPLETE (UK)
*	A-4356-833-A	CD PANEL BOARD, COMPLETE (G,IT)
*	A-4360-445-A	CD PANEL BOARD, COMPLETE (AEP,EE)

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*	4-955-901-01	CUSHION (FL)
*	4-956-202-01	HOLDER (FL TUBE)

< CAPACITOR >

C901	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C902	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C903	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C904	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C905	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C906	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C907	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C908	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C909	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C910	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C950	1-163-038-00	CERAMIC CHIP	0.1uF		25V

< CONNECTOR >

CN902	1-580-473-11	SOCKET, CONNECTOR 26P

Ref.No.	Part No.	Description	Remarks
		< DIODE >	
D907	8-719-026-68	LED SML1960A (▷ CD PLAY)	
D908	8-719-026-66	LED SML1460E (❚❚ CD PAUSE)	
D909	8-719-016-74	DIODE 1SS352	
D910	8-719-016-74	DIODE 1SS352	
D911	8-719-016-74	DIODE 1SS352	
D912	8-719-016-74	DIODE 1SS352	
D913	8-719-016-74	DIODE 1SS352	
D914	8-719-402-01	DIODE MA3091L-TX	
D915	8-719-016-74	DIODE 1SS352	
		< FLUORESCENT INDICATOR >	
FL901	1-517-150-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC901	8-759-157-72	IC uPD75212AGF-569-3BE	
		< TRANSISTOR >	
Q901	8-729-805-65	TRANSISTOR 2SA1344	
Q902	8-729-805-65	TRANSISTOR 2SA1344	
Q903	8-729-602-21	TRANSISTOR 2SC4154-F	
		< RESISTOR >	
R920	1-216-025-00	METAL CHIP 100 5% 1/10W	
R921	1-216-025-00	METAL CHIP 100 5% 1/10W	
R922	1-216-025-00	METAL CHIP 100 5% 1/10W	
R924	1-216-037-00	METAL CHIP 330 5% 1/10W	
R925	1-216-037-00	METAL CHIP 330 5% 1/10W	
R926	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R927	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R928	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R929	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R930	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R931	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R932	1-216-001-00	METAL CHIP 10 5% 1/10W	
R933	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R934	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R935	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R936	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R937	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R938	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R939	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R940	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R941	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R942	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R943	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R944	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R945	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R946	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R947	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R948	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R949	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R950	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R951	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R952	1-216-295-00	METAL CHIP 0 5% 1/10W	
R953	1-216-295 00	METAL CHIP 0 5% 1/10W	
R954	1-216-295-00	METAL CHIP 0 5% 1/10W	
R955	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< SWITCH >	
S920	1-554-303-21	SWITCH, TACTILE (EDIT)	
S921	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S922	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S923	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S924	1-554-303-21	SWITCH, TACTILE (OPEN/CLOSE ⏏)	
S925	1-554-303-21	SWITCH, TACTILE (CHECK)	
S926	1-554-303-21	SWITCH, TACTILE (◀◀ ⏮)	
S927	1-554-303-21	SWITCH, TACTILE (■)	
S928	1-554-303-21	SWITCH, TACTILE (DISPLAY)	
S929	1-554-303-21	SWITCH, TACTILE (⏭ ▶▶)	
S930	1-554-303-21	SWITCH, TACTILE (▷❚❚)	

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Ref.No.	Part No.	Description	Remarks
*	1-638-308-11	LOADING BOARD *************	
		< CONNECTOR >	
CN201	1-580-918-11	HOUSING, CONNECTOR 5P	
		< SWITCH >	
S291	1-571-924-11	SWITCH, LEAF (LOAD OUT)	
S292	1-571-924-11	SWITCH, LEAF (LOAD IN)	

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Ref.No.	Part No.	Description	Remarks
*	A-4649-698-A	MOUNTED PCB (A), BD ******************	
		< CAPACITOR >	
C101	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C102	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V	
C103	1-135-155-21	TANTALUM CHIP 4.7uF 10% 16V	
C104	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C105	1-126-607-11	ELECT CHIP 47uF 20% 4V	
C106	1-126-607-11	ELECT CHIP 47uF 20% 4V	
C107	1-126-607-11	ELECT CHIP 47uF 20% 4V	
C108	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C109	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C110	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V	
C111	1-164-346-11	CERAMIC CHIP 1uF 16V	

Ref. No.	Part No.	Description			Remarks
C112	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C113	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C114	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C115	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C117	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C118	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C119	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C120	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C152	1-164-346-11	CERAMIC CHIP	1uF		16V
C153	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C154	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C155	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C171	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C172	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C173	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C174	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C201	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C202	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C203	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C204	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C205	1-164-346-11	CERAMIC CHIP	1uF		16V
C206	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C207	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C208	1-164-346-11	CERAMIC CHIP	1uF		16V
C209	1-164-346-11	CERAMIC CHIP	1uF		16V
C210	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C301	1-164-346-11	CERAMIC CHIP	1uF		16V
C302	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C303	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C304	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C305	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C306	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C307	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C308	1-164-346-11	CERAMIC CHIP	1uF		16V
C309	1-164-346-11	CERAMIC CHIP	1uF		16V
C310	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C311	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C312	1-164-346-11	CERAMIC CHIP	1uF		16V
C320	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C401	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C402	1-163-038-00	CERAMIC CHIP	0.1uF		25V

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
CN101	1-580-858-11	SOCKET, CONNECTOR (SMT) 5P	
CN102	1-580-866-11	SOCKET, CONNECTOR (SMT) 12P	
CN103	1-580-872-41	SOCKET, CONNECTOR (SMT) 19P	

< DIODE >

Ref. No.	Part No.	Description		Remarks
D101	8-719-422-12	DIODE	MA8039	
D201	8-719-016-74	DIODE	1SS352	

< IC >

Ref. No.	Part No.	Description		Remarks
IC101	8-752-058-77	IC	CXA1372AQ	
IC102	8-759-823-48	IC	LA6525M	
IC103	8-759-636-20	IC	M54641FP	
IC201	8-752-340-37	IC	CXD2505Q	
IC202	8-759-157-71	IC	uPD75116GF-G29-3BE	
IC301	8-759-155-52	IC	PCM67U-B	
IC302	8-759-996-43	IC	RC4558PS	

< JUMPER RESISTOR >

Ref. No.	Part No.	Description			Remarks
JW301	1-216-296-00	METAL CHIP	0	5%	1/8W
JW302	1-216-296-00	METAL CHIP	0	5%	1/8W

< TRANSISTOR >

Ref. No.	Part No.	Description		Remarks
Q101	8-729-805-45	TRANSISTOR	2SC3395	
Q201	8-729-602-21	TRANSISTOR	2SC4154-F	

< RESISTOR >

Ref. No.	Part No.	Description			Remarks
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-091-00	METAL CHIP	56K	5%	1/10W
R104	1-216-099-00	METAL CHIP	120K	5%	1/10W
R105	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R108	1-216-105-00	METAL CHIP	220K	5%	1/10W
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R110	1-216-049-00	METAL CHIP	1K	5%	1/10W
R111	1-216-049-00	METAL CHIP	1K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-085-00	METAL CHIP	33K	5%	1/10W
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-236-427-11	NETWORK, RES	18K		
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W

BD LEAF SW (A) AUDIO (DECK-A)

Ref. No.	Part No.	Description	Remarks
R201	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R202	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R203	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R204	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R205	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R209	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R210	1-236-427-11	NETWORK, RES 18K	
R212	1-236-427-11	NETWORK, RES 18K	
R214	1-239-039-11	RESISTOR, NETWORK (1608) 22K	
R215	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R218	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R219	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R220	1-216-001-00	METAL CHIP 10 5% 1/10W	
R222	1-236-427-11	NETWORK, RES 18K	
R223	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R224	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R225	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R226	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R236	1-236-413-11	NETWORK, RES 1.2K	
R301	1-236-413-11	NETWORK, RES 1.2K	
R303	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R304	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R305	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R306	1-216-097-00	METAL CHIP 100K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV101	1-241-395-11	RES, ADJ, METAL GLAZE 10K(TRACKING GAIN)	
RV102	1-241-395-11	RES, ADJ, METAL GLAZE 10K(FOCUS GAIN)	
		< SWITCH >	
SW101	1-572-085-11	SWITCH, LEAF (LIMIT)	
		< VIBRATOR >	
X201	1-567-908-11	VIBRATOR, CRYSTAL (16MHz)	
X202	1-579-216-11	VIBRATOR, CERAMIC (4MHz)	
**			
*	1-634-841-14	LEAF SW(A) BOARD ****************	
	3-343-419-01	HOLDER (S SENSOR A)	
		< CONNECTOR >	
* CN51	1-568-852-11	SOCKET, CONNECTOR 9P	
		< IC >	
IC81	8-719-710-03	DIODE NJL5165K-B	
		< RESISTOR >	
R84	1-249-417-11	CARBON 1K 5% 1/4W	
R85	1-249-408-11	CARBON 180 5% 1/4W	
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)	
S82	1-571-281-21	SWITCH, LEAF (70uEQ)	
S86	1-571-281-21	SWITCH, LEAF (HALF)	
**			
*	A-2006-399-A	MOUNTED PCB (RA12A), AUDIO (DECK-A) **************************	
		< CAPACITOR >	
C11	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C12	1-136-157-00	FILM 0.022uF 5% 50V	
C13	1-124-234-00	ELECT 22uF 20% 16V	
C18	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C21	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C22	1-136-157-00	FILM 0.022uF 5% 50V	
C23	1-124-234-00	ELECT 22uF 20% 16V	
C28	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C31	1-124-234-00	ELECT 22uF 20% 16V	
C32	1-124-234-00	ELECT 22uF 20% 16V	
C71	1-124-499-11	ELECT, NONPOLAR 1uF 20% 50V	
		< CONNECTOR >	
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD 10P	
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P	
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P	
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
		< IC >	
IC31	8-759-106-02	IC uPC4570G2	
		< JUMPER RESISTOR >	
JW1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW51	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW52	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW53	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW54	1-216-296-00	METAL CHIP 0 5% 1/8W	
		< TRANSISTOR >	
Q71	8-729-602-36	TRANSISTOR 2SA1602-F	
		< RESISTOR >	
R11	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R12	1-216-025-00	METAL CHIP 100 5% 1/10W	
R13	1-216-100-00	METAL GLAZE 130K 5% 1/10W	

Ref. No.	Part No.	Description			Remarks
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV11	1-241-627-11	RES, ADJ, CARBON 1K (PB LEVEL L)
RV21	1-241-627-11	RES, ADJ, CARBON 1K (PB LEVEL R)
RV71	1-241-630-11	RES, ADJ, CARBON 10K (NORMAL SPEED)
RV72	1-241-630-11	RES, ADJ, CARBON 10K (HIGH SPEED)

****

* 1-634-841-14 LEAF SW(B) BOARD

****

3-343-419-01 HOLDER (S SENSOR A)

< CONNECTOR >

Ref. No.	Part No.	Description
* CN51	1-568-852-11	SOCKET, CONNECTOR 9P

< IC >

Ref. No.	Part No.	Description	
IC81	8-719-710-03	DIODE	NJL5165K-B

< RESISTOR >

Ref. No.	Part No.	Description			Remarks
R81	1-249-414-11	CARBON	560	5%	1/4W
R82	1-247-818-11	CARBON	300	5%	1/4W
R83	1-247-834-11	CARBON	1.3K	5%	1/4W
R84	1-249-417-11	CARBON	1K	5%	1/4W
R85	1-249-408-11	CARBON	180	5%	1/4W

< SWITCH >

Ref. No.	Part No.	Description
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)
S82	1-571-281-21	SWITCH, LEAF (70uEQ)
S83	1-571-281-21	SWITCH, LEAF (METAL)
S84	1-571-281-21	SWITCH, LEAF (REC A)
S85	1-571-281-21	SWITCH, LEAF (REC B)
S86	1-571-281-21	SWITCH, LEAF (HALF)

****

* A-2006-400-A MOUNTED PCB (RB22A), AUDIO (DECK-B)

****

< CAPACITOR >

Ref. No.	Part No.	Description			Remarks
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C14	1-136-273-91	FILM	75PF	5%	630V
C15	1-164-080-11	CERAMIC	390PF	10%	50V
C17	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C24	1-136-273-91	FILM	75PF	5%	630V
C25	1-164-080-11	CERAMIC	390PF	10%	50V
C27	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C33	1-124-234-00	ELECT	22uF	20%	16V
C51	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C52	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C53	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C54	1-136-559-11	FILM	0.0047uF	5%	630V
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C58	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V

< CONNECTOR >

Ref. No.	Part No.	Description
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD 10P
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD 10P
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P

< DIODE >

Ref. No.	Part No.	Description	
D31	8-719-016-74	DIODE	1SS352

< IC >

Ref. No.	Part No.	Description	
IC31	8-759-106-02	IC	uPC4570G2

< JUMPER RESISTOR >

Ref. No.	Part No.	Description			Remarks
JW1	1-216-296-00	METAL CHIP	0	5%	1/8W
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W
JW3	1-216-295-00	METAL CHIP	0	5%	1/10W
JW4	1-216-295-00	METAL CHIP	0	5%	1/10W
JW6	1-216-295-00	METAL CHIP	0	5%	1/10W
JW7	1-216-295-00	METAL CHIP	0	5%	1/10W
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W
JW55	1-216-296-00	METAL CHIP	0	5%	1/8W
JW56	1-216-296-00	METAL CHIP	0	5%	1/8W

AUDIO (DECK-B)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description				Remarks
JW57	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW58	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW59	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW60	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW61	1-216-296-00	METAL CHIP	0	5%	1/8W	
		< COIL >				
L11	1-410-780-11	INDUCTOR	27mH			
L21	1-410-780-11	INDUCTOR	27mH			
		< TRANSISTOR >				
Q51	8-729-808-01	TRANSISTOR	2SD1622-S			
Q52	8-729-808-01	TRANSISTOR	2SD1622-S			
Q53	8-729-808-01	TRANSISTOR	2SD1622-S			
Q71	8-729-602-36	TRANSISTOR	2SA1602-F			
		< RESISTOR >				
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R12	1-216-025-00	METAL CHIP	100	5%	1/10W	
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W	
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
⚠R15	1-249-430-11	CARBON	12K	5%	1/4W	F
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R22	1-216-025-00	METAL CHIP	100	5%	1/10W	
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W	
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
⚠R25	1-249-430-11	CARBON	12K	5%	1/4W	F
R31	1-216-033-00	METAL CHIP	220	5%	1/10W	
R32	1-216-033-00	METAL CHIP	220	5%	1/10W	
⚠R41	1-249-393-11	CARBON	10	5%	1/4W	F
⚠R42	1-249-393-11	CARBON	10	5%	1/4W	F
R51	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R52	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R54	1-216-309-00	METAL CHIP	5.6	5%	1/10W	
R55	1-216-309-00	METAL CHIP	5.6	5%	1/10W	
R56	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W	
		< VARIABLE RESISTOR >				
RV11	1-241-627-11	RES, ADJ, CARBON 1K (PB LEVEL L)				
RV12	1-238-551-11	RES, ADJ, CARBON 220K (REC BIAS L)				
RV21	1-241-627-11	RES, ADJ, CARBON 1K (PB LEVEL R)				
RV22	1-238-551-11	RES, ADJ, CARBON 220K (REC BIAS R)				
RV71	1-241-630-11	RES, ADJ, CARBON 10K (NORMAL SPEED)				
RV72	1-241-630-11	RES, ADJ, CARBON 10K (HIGH SPEED)				

Ref. No.	Part No.	Description	Remarks
		< RELAY >	
RY31	1-515-913-11	RELAY (REC/PB)	
		< TRANSFORMER >	
T51	1-406-419-11	COIL, BIAS OSCILLATION	

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remarks
11	1-696-891-11	WIRE (FLAT TYPE) (26 CORE)	
14	1-690-046-11	WIRE (FLAT TYPE) (11 CORE)	
52	1-696-890-11	WIRE (FLAT TYPE) (19 CORE)	
54	1-696-889-11	WIRE (FLAT TYPE) (9 CORE)	
56	1-696-888-11	WIRE (FLAT TYPE) (9 CORE)	
57	1-690-907-11	WIRE (FLAT TYPE) (17 CORE)	
168	1-590-530-11	WIRE (FLAT TYPE) (5 CORE)	
⚠204	8-848-144-11	OPTICAL PICK-UP KSS-240A	
205	1-575-001-11	WIRE (FLAT TYPE) (12 CORE)	
272	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	
* 277	1-690-419-11	WIRE, LEAD(WITH CONNECTOR) (4 CORE)	
HP901	A-2003-958-B	BASE ASSY, HEAD (DECK-A)	
HRPE901	A-2003-838-A	BASE ASSY, HEAD (DECK-B)	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M291	A-4608-362-A	MOTOR (L) ASSY (LOADING)	
M901A	X-3359-417-1	CAPSTAN MOTOR ASSY (DECK-A)	
M901B	X-3359-417-1	CAPSTAN MOTOR ASSY (DECK-B)	
M902A	X-3363-501-1	REEL MOTOR ASSY (DECK-A)	
M902B	X-3363-501-1	REEL MOTOR ASSY (DECK-B)	

****

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remarks
*	4-956-934-01	CUSHION (FRONT)	
*	4-956-935-01	CUSHION (REAR)	

****

HARDWARE LIST

Ref. No.	Part No.	Description	Remarks
#1	7-621-773-93	SCREW (PANEL 2.6 TP2)	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-621-255-15	SCREW +PTT 2X3 (S)	
#5	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT	
#6	7-624-105-04	STOP RING 2.3, TYPE -E	
#7	7-621-775-10	SCREW +B 2.6X4	
#8	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#9	7-621-775-00	SCREW +B 2.6X3	
#10	7-627-556-08	SCREW +P 2.6X2.8	

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HTC-H2800

SONY®
SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model
Tourist Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject:
- **Mechanical Adjustments**
- **Electrical Adjustments**
- **IC Pin Functions**
- **Block Diagram**
- **Change of CD Mechanism**

- **Change of CD Mechanism**

CD Mechanism: CDM13BC-5BD14⇨ CDM13BC-5BD14E
Base Unit: BU-5BD14 ⇨ BU-5BD14E

The pattern of BD board have been changed.
There are discribed in the schematic diagram, printed wiring boards and electrical parts list of new type BD board in this supplement-1 (page 19-26).
However, mechanism parts have not been changed.

MC-Service

SECTION 1
ADJUSTMENTS

1-1. MECHANICAL ADJUSTMENT

DECK SECTION

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
    - record / playback head
    - erase head
    - capstan
    - pinch roller
    - rubber belts
    - idler
2. Demagnetize the record / playback head with a head demagnetizer
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torgue	Torque meter	Meter reading
FWD	CQ-102C	35 to 60g•cm (0.49 to 0.83 oz•inch)
FWD Back tension	CQ-102C	2 to 6g•cm (0.028 to 0.08 oz•inch)
REV	CQ-102RC	35 to 60g•cm (0.49 to 0.83 oz•inch)
REV Back tension	CQ-102RC	2 to 6g•cm (0.028 to 0.08 oz•inch)
FF, REW	CQ-201B	70 to 110g•cm (0.98 to 1.52 oz•inch)

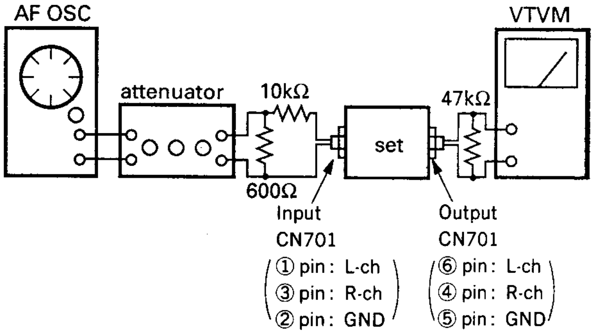
1-2. ELECTRICAL ADJUSTMENTS

DECK SECTION

Note : The adjustment should be performed in the order given in the service manual. As a rule, adjustment about playback should be performed before adjustment about recording. The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch : OFF
  DIRECTION MODE switch : ⇄
- Standard Record :
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

– Record Mode –



Standard Input Level

input terminal	Input (CN701)
source impedance	10kΩ
input level	0.5V (−3.8dB)

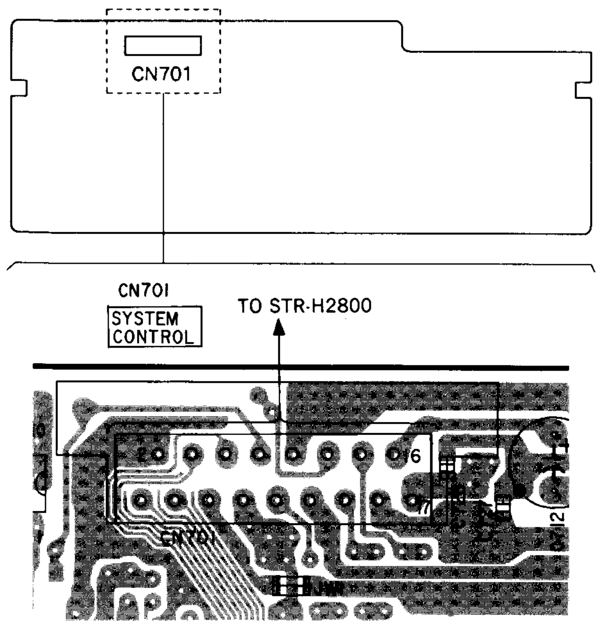
Standard Output Level

output terminal	Output (CN701)
load impedance	47kΩ
output level	0.5V (−3.8dB)

Test tape

Type	Signal	Used for
P-4-A100	10kHz, −10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

POWER SUPPLY BOARD (CONDUCTOR SIDE)

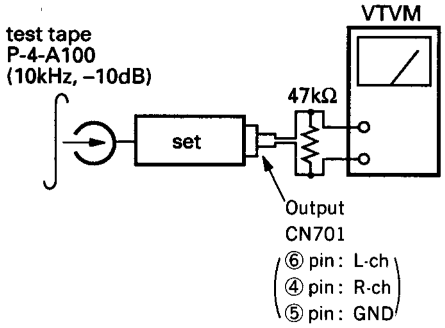

CN701
CN701
SYSTEM CONTROL
TO STR-H2800
CN701
6
7

Record / Playback Head Azimuth Adjustment

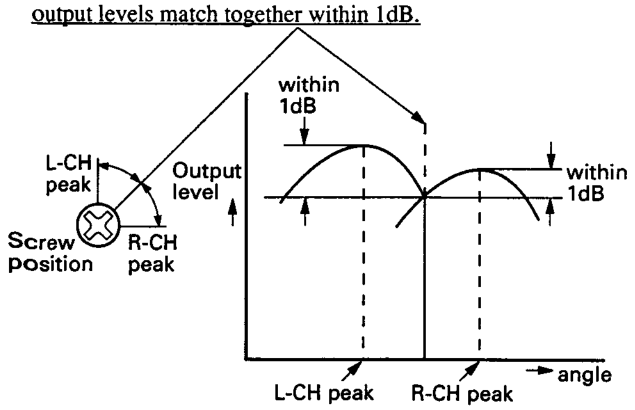
DECK A DECK B

Procedure :

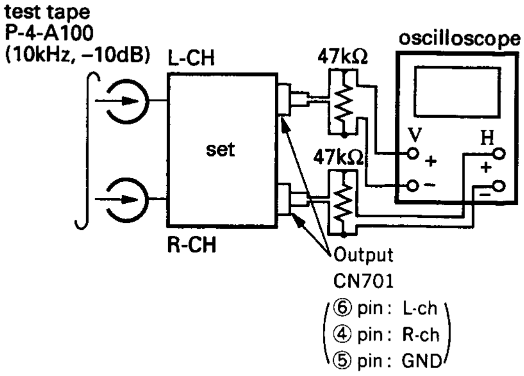
1. Mode : FWD Playback

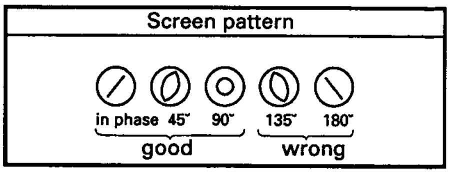

test tape
P-4-A100
(10kHz, −10dB)
set
47kΩ
VTVM
Output
CN701
⑥ pin : L-ch
④ pin : R-ch
⑤ pin : GND

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



3. Phase Check
   Mode : FWD playback

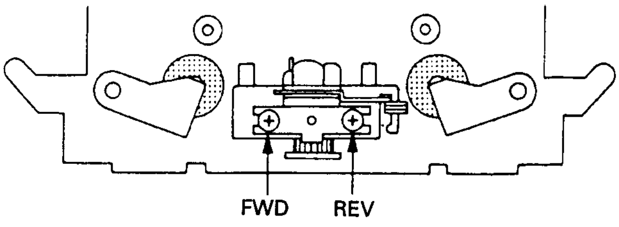

test tape
P-4-A100
(10kHz, −10dB)
L-CH
R-CH
set
47kΩ
47kΩ
oscilloscope
V
H
+
−
+
−
Output
CN701
⑥ pin : L-ch
④ pin : R-ch
⑤ pin : GND


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

4. Set in the REV mode and repeat the step 1-3.
5. After the adjustment, lock the screws with locking compound.

Adjustment Location :

- Refer to page 5 and 6 of service manual for removal of cassette lid and azimuth cover.
- Azimuth adjustment screws



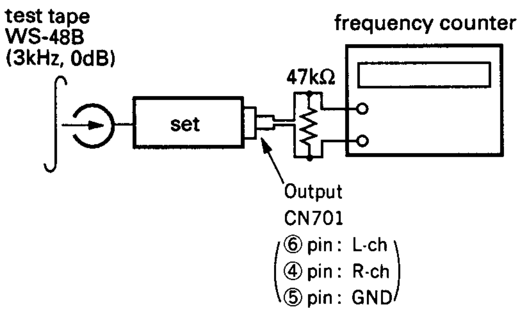
Adjustment screws

MC-Service

Tape Speed Adjustment DECK A DECK B

Perform high speed adjustment before normal speed adjustment

Procedure :
Mode : FWD playback


test tape
WS-48B
(3kHz, 0dB)
frequency counter
47kΩ
set
Output
CN701
⑥ pin : L-ch
④ pin : R-ch
⑤ pin : GND

(High speed adjustment) DECK A

1. Turn ON the power switch with TP601 of the main board shorted.
2. Set a WS-48B tape onto the deck A and press the ▷ switch to activate FWD.
3. Upon beginning FWD, press the S901 (DUBBING).
4. Confirm that the reading of the frequency counter satisfies 6,000 ±60Hz.
5. Adjust the RV72 (DECK A) so that the frequency counter reading becomes 6,000±60Hz.
6. Set in the REV mode and repeat the Step 2-5.

(High speed adjustment) DECK B

1. Turn ON the power switch with TP601 of the main board shorted.
2. Set a WS-48B tape onto the deck B and press the ▷ switch to activate FWD.
3. Upon beginning FWD, press the S901 (DUBBING).
4. Confirm that the reading of the frequency counter satisfies 6,000 ±60Hz.
5. Adjust the RV72 (DECK B) so that the frequency counter reading becomes 6,000±60Hz.
6. Set in the REV mode and repeat the Step 2-5.
7. Disconnect the TP601.

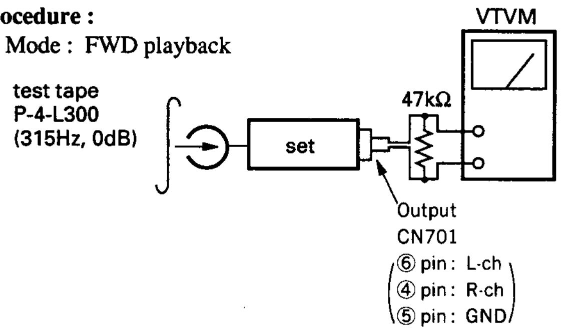
(Normal speed adjustment) DECK A DECK B

1. Set a WS-48B tape onto the deck A.
2. Press the ▷ switch to activate FWD.
3. Confirm that the reading of the frequency counter satisfies 3,000 ±30Hz.
4. If the above is not satisfied, adjust the RV71 so that the readings of the frequency counter for both decks A and B become 3,000 ± 30Hz.
5. Set in the REV mode and repeat the step 1-4.

Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between deck A and deck B the beginning of the tape should be within 1%.

Playback Level Adjustment DECK A DECK B

Procedure :
Mode : FWD playback

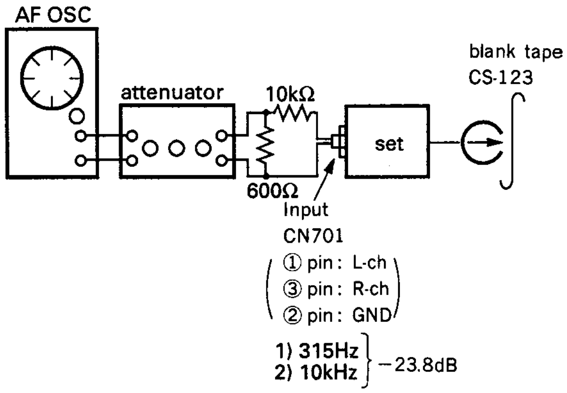

VTVM
test tape
P-4-L300
(315Hz, 0dB)
47kΩ
set
Output
CN701
⑥ pin : L-ch
④ pin : R-ch
⑤ pin : GND

Adjust RV11 (L-CH), RV21 (R-CH) so that the reading on VTVM meets the adjustment limits below.

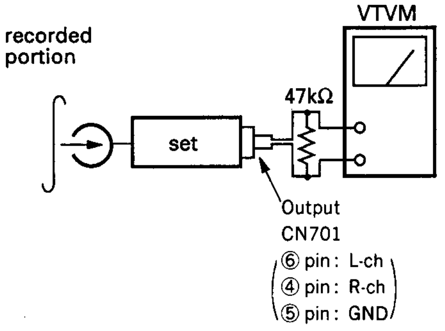
Ajustment Limits :
Output level : −7.7±1dB (0.31−0.33V)
Level difference between channels : less than 1dB
Confirm that the OUTPUT level does not change in playback mode while changing the mode from playback to stop several times.

Record Bias Adjustment DECK B

Setting :
REC LEVEL control : Standard Record (See page 4).
Procedure :
1. Mode : record


AF OSC
attenuator
10kΩ
600Ω
set
blank tape
CS-123
Input
CN701
① pin : L-ch
③ pin : R-ch
② pin : GND
1) 315Hz
2) 10kHz
−23.8dB

2. Mode : FWD playback


VTVM
recorded
portion
47kΩ
set
Output
CN701
⑥ pin : L-ch
④ pin : R-ch
⑤ pin : GND

3. Playback the signal recorded in step 1.
Confirm that the 10kHz playback output is 0±0.5dB relative to the 315Hz output. If necessary, adjust RV12 (L-CH), RV22 (R-CH) and repeat the steps given above.

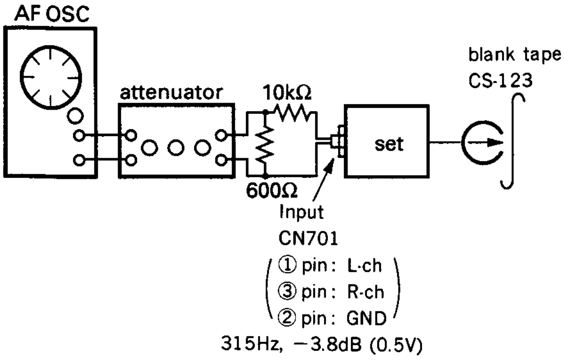
Record Level Adjustment DECK B

Setting :

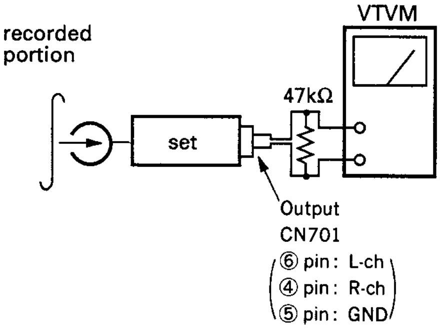
REC LEVEL control : Standard Record (See page 4).

Procedure :

1. Mode : record


AF OSC
attenuator
10kΩ
600Ω
set
blank tape
CS-123
Input
CN701
① pin : L-ch
③ pin : R-ch
② pin : GND
315Hz, −3.8dB (0.5V)

2. Mode : FWD playback

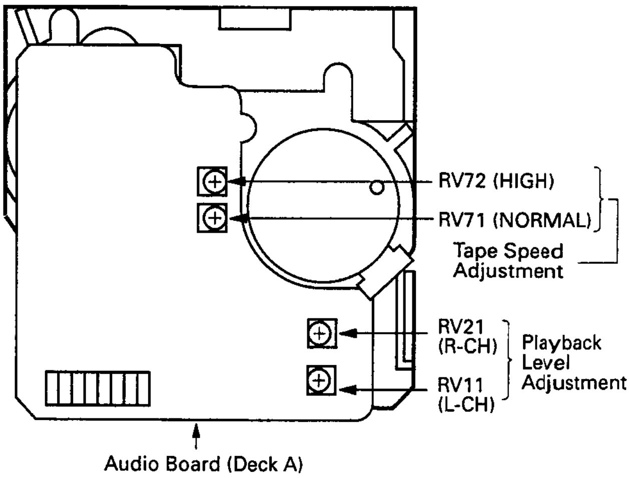

recorded portion
VTVM
47kΩ
set
Output
CN701
⑥ pin : L-ch
④ pin : R-ch
⑤ pin : GND

3. Playback the signal recorded in step 1.
   Confirm that the signal leve is within the adjustment limits below.
   If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the steps given above.

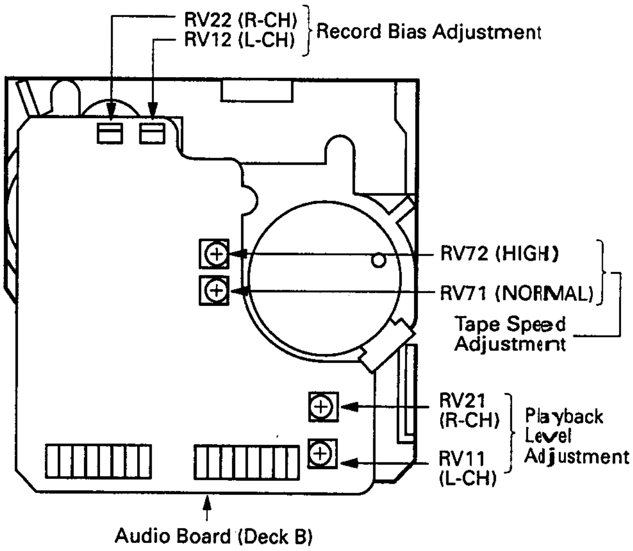
Adjustment Limits : −3.8±0.5dB (0.48—0.53V)

Adjustment Location :

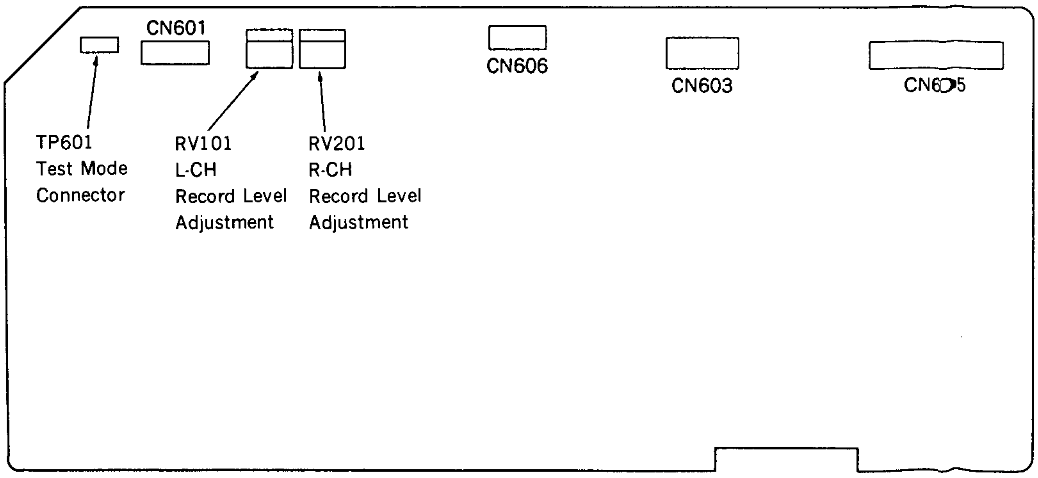
AUDIO board (DECK A)


RV72 (HIGH)
RV71 (NORMAL)
Tape Speed Adjustment
RV21 (R-CH)
RV11 (L-CH)
Playback Level Adjustment
Audio Board (Deck A)

AUDIO board (DECK B)


RV22 (R-CH)
RV12 (L-CH)
Record Bias Adjustment
RV72 (HIGH)
RV71 (NORMAL)
Tape Speed Adjustment
RV21 (R-CH)
RV11 (L-CH)
Playback Level Adjustment
Audio Board (Deck B)

TC MAIN board (Component Side)


CN601
CN606
CN603
CN605
TP601
Test Mode
Connector
RV101
L-CH
Record Level
Adjustment
RV201
R-CH
Record Level
Adjustment

CD SECTION

Test Modes of CD Syscon (IC202)

(1) ADJUST mode
When this mode is effected, the machine is operated normally except for the following.

- When pin ⑲, IC202 (ADJ) is set to "L" after turning ON the POWER switch:

1. GFS is no longer monitored during PLAY, PAUSE or SEARCH, while not stopping even with GFS remaining still at "L" (NG).
2. No high-speed feeding is activated during SEARCH.
3. Focus gain is reset to normal gain during PLAY (normally, the gain is lowered to reduce noise when FOCUS is locked).

- When Pin ⑬, IC202 (AFADJ) is set to "L" after turning ON the POWER switch:

4. Regardless of Pin ⑲ (ADJ) of the CLV-S fixed function, the CLV mode during PLAY becomes CLV-S (rough servo) only while Pin ⑬ remains "L".

(2) AFADJUST mode
In this mode, it is possible to check the interface between the display micon (IC901) and CD syscon (IC202).

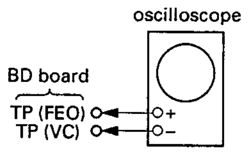
- Set Pin ⑬, IC202 (AFADJ) to "L" before turning ON the POWER switch.

1. Every time the ⏏ key is pressed after turning On the POWER switch, indication on the FL tube is switched correspondingly.

Note :

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

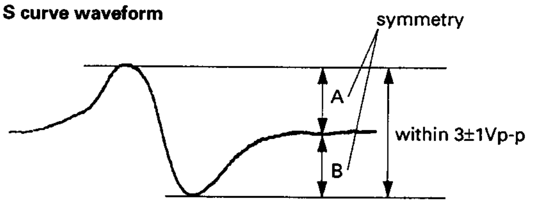
S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

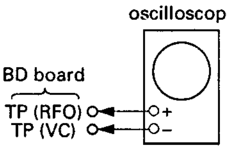
S curve waveform



5. After check, remove the lead wire TP(FES) connected in step 2.

Note :
- Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check


oscilloscope
BD board
TP (RFO)
TP (VC)
+
–

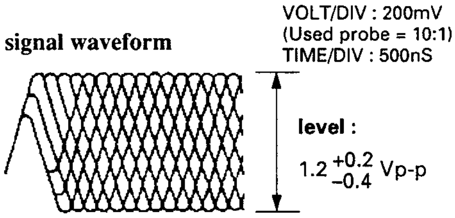
Procedure :

1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

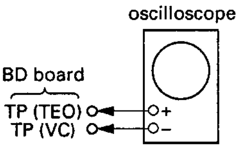
Note :

Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

RF signal waveform



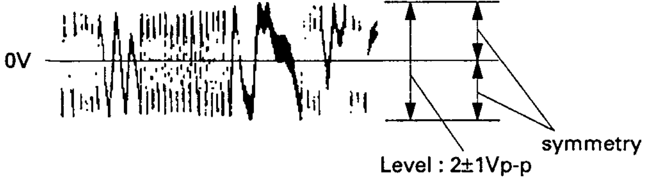
E-F Balance Check


oscilloscope
BD board
TP (TEO)
TP (VC)
+
–

Procedure :

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse oscilloscope

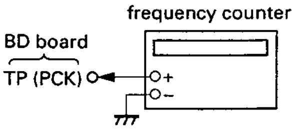


6. Remove the lead wire (TP [ADJ] and TP [TES]) connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PCK) with lead wire.


frequency counter
BD board
TP (PCK)
+
–

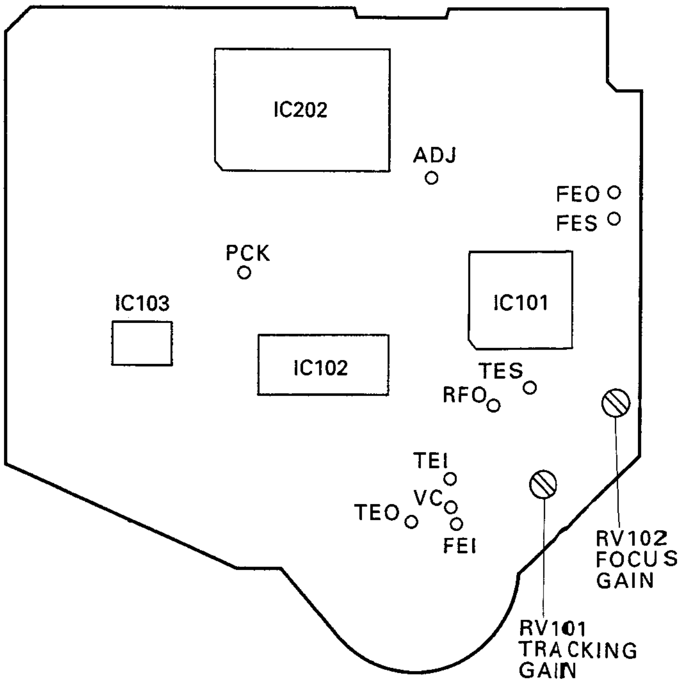
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that reading on frequency counter is 4.3218MHz.

Focus/Tracking Gain

This gain has a margin, so even if it is slightly off.
There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location :

[MAIN BOARD] – Component Side –


IC202
ADJ
FEO
FES
PCK
IC103
IC101
IC102
TES
RFO
TEI
VC
TEO
FEI
RV102
FOCUS
GAIN
RV101
TRACKING
GAIN

SECTION 2
IC PIN FUNCTIONS

• IC202 CD System Controller (μPD75116GF-G29-3BE)

Functions effected by the captioned controller include IC101 (RF signal processing, servo), IC201 (DSP, digital filter) and loading control in the CD unit, data exchange with IC901 (display controller), audio bus entry, etc.

Pin No.	Pin Name	I/O	Description
1, 2		O	Not in use with the model (open).
3	DPCLK	O	Display data transfer clock output to IC901 (display controller)
4-6		O	Control output to IC203 (MSM6538-01GS-VKR1)
7	$\overline{\text{RESET}}$	I	System reset input. "L": Reset
8	X2	I	Clock input
9	X1	I	Clock input (4 MHz)
10	DFCT SW	O	DEFECT circuit ON/OFF switching output of IC101 (CXA1372AQ). It is turned OFF ("H") to focus-search the DISC flaw detection circuit.
11	AMUTE	O	Muting control output. "H": Mute
12	BSOUT	O	Audio bus output
13	AFADJ	I	Test mode input. Various test operations are effected upon "L" after turning ON the POWER.
14	LDON	O	Optical pickup laser diode ON/OFF switching output. "H": ON
15	XLT	O	Serial data latch output to IC201 (CXD2500BQ)
16	CLK	O	Serial data transfer clock output to IC201 (CXD2500BQ)
17	DATA	O	Serial data output to IC201 (CXD2500BQ)
18	MODE	I	Not in use with the model (pull up)
19	ADJ	I	Test mode input. Upon "L," GFS checking is disabled while continuously rotating the spindle no matter whether frame sync is issued during PLAY, PAUSE or SEARCH.
20	GFS	I	GFS signal input from IC201 (CXD2500BQ). "L": NG "H": OK
21	FOK	I	Focus OK signal input from IC101 (CXA1372AQ). "H": OK
22, 23		O	Not in use with the model (open)
24	LODOUT	O	Output to rotate M291 (loading motor) in the loading out direction. *1
25	LODIN	O	Output to rotate M291 (loading motor) in the loading in direction. *1
26	Vss	—	Power terminal (GND)
27	$\overline{\text{IN SW}}$	I	S292 (Loading in switch) input
28	$\overline{\text{OUT SW}}$	I	S291 (Loading out switch) input
29	KEY REQ	I	Key data request input from IC901 (display controller)
30	BS IN	I	Audio bus input
31 - 36		I	Not in use with the model (GND)
37	SENS	I	SENS input from IC101 (CXA1372AQ) and IC201 (CXD2500BQ)
38	$\overline{\text{TIMER}}$	I	Not in use with the model (pull up)
39	D/F 16BIT	I	IC201 (CXD2500BQ) digital filter mode setting input. It is fixed at 16 bit, 4fs with the model (pull up).
40		I	Not in use with the model (GND)
41	SUBQ	I	Subcode Q data input from IC201 (CXD2500BQ)
42		O	Not in use with the model (open)
43	SQCLK	O	Subcode Q data readout clock output to IC201 (CXD2500BQ)
44	SCOR	I	Subcode sync S0 + S1 detection input from IC201 (CXD2500BQ)
45 - 56		O	Not in use with the model (open)
57	N.C.	I	Not in use with the model (+5V)
58	VDD	—	Power terminal (+5V)
59 - 62	DPDATA3-0	I/O	Key data input and display data output with IC901 (display controller)
63, 64		O	Not in use with the model (open)

*1 Loading motor control

	IN	OUT	BRAKE
LODOUT ㉔	L	H	H
LODIN ㉕	H	L	H

IC601 Deck Section System Controller (M38022M4-072FP)

The system is wholly controlled by communication between IC901 (display controller) and IC602 (mechanism controller).

Pin No.	Pin Name	I/O	Description
1	KEY3	I	Key input. (analog)*2
2	KEY2	I	Key input. (analog)*2
3	KEY1	I	Key input. (analog)*2
4	70μB	I	Chrome switch (S82) input for deck B. "L" : Normal.
5	METAL B	I	Metal switch (S83) input for deck B. "H" : Metal.
6	70μA	I	Chrome switch (S82) input for deck A. "L" : Normal.
7	MD RESET	O	IC602 (mechanism controller) reset signal output.
8	MD REQ	I	Data request input from IC602 (mechanism controller)
9	MD SCLK	O	Data transmission clock output to IC602 (mechanism controller)
10	MD SO	O	Serial data output to IC602 (mechanism controller)
11	MD SI	I	Serial data input from IC602 (mechanism controller)
12	FL SYNC	O	Sync signal output which indicates the first byte of data sent to IC901 (display controller).
13	FL SCK	O	Data transmission clock output to IC901 (display controller).
14	FL SO	O	Serial data output to IC901 (display controller).
15			Not used. (GND)
16	DSP RESET	O	IC901 (display controller) reset signal output.
17	SAF LED	O	Not used. (open)
18	V_{SS}	—	Power supply terminal (GND)
19	$\overline{\text{RESET}}$	I	System reset input. "L" : Reset.
20	AU BUS	I	Audio bus input (positive-edge)
21	AU BUS OUT	O	Audio bus output.
22	X IN	I	Clock input (4 MHz)
23	X OUT	O	Clock output
24	V_{SS}	—	Power supply terminal. (GND)
25	POWER OUT	O	Power on output terminal. "L" : Power ON.
26	POWER OFF DET	I	Power-off detection input. "L" : Power OFF.
27	TEST	I	Electrical adjustment test mode setting input. This set enters into the test mode when the power is on and it is set to "L". *1
28	1CHIP MODE	I	1 chip mode select terminal. "H" : 1 chip mode
29	LINER/ DIGITAL	I	Counter mode select terminal. "L" : LINER, "H" : DIGITAL.
30		I	7.5V power supply detection terminal.
31	V_{CC}	—	Power supply terminal. (+5V)
32	V_{SS}	—	Power supply terminal. (GND)
33	EQ HIGH	O	REC equalizer characteristic switch output. "H" : High speed, "L" : Normal speed.
34	BIAS FADE	O	Not used. (GND)
35	BIAS	O	Bias ON/OFF switch output. "H" : OFF, "L" : ON.
36	REC MUTE	O	REC mute control output. "L" : Mute ON, "H" : Mute OFF.
37	RELAY B	O	Mechanism deck head switch control output. "L" : ON.
38	DOLBY B/C	O	Dolby B/C switch control output. "L" : Dolby C, "H" : Dolby B. Not used. (open)
39	DOLBY ON/OFF	O	Dolby ON/OFF switch control output. "L" : ON, "H" : OFF.
40	REC/PB	O	Dolby amplifier REC/PB switch output. "L" : REC, "H" : PB.
41	AMS IN	I	Signal input from the AMS amplifier. "H" : Detected, "L" : Not detected.

Pin No.	Pin Name	I/O	Description
42	AMS SELECT	O	AMS amplifier input switch output
43	PB 70μ	O	Playback equalizer characteristic switch output. "H" : Normal, "L" : Chrome or metal.
44	PB SELECT	O	Deck A/B switch output in the playback mode. "L" : deck B, "H" : deck A.
45	AMS/BS	O	Not used.
46	PASS	O	PASS amplifier switch output for LINE OUT. "L" : PASS amplifier, "H" : Through.
47	LINE MUTE	O	Line mute control output. "L" : MUTE OFF, "H" : MUTE ON.
48	AU BUS	I	Audio bus input (negative edge).
49	XFADE LED	O	Not used.
50	FADE LED	O	Not used.
51			Not used. (GND)
52			Not used. (GND)
53			Not used. (GND)
54			Not used. (GND)
55	VCA R		Not used.
56	VCA L		Not used.
57	V_{CC}	—	Power supply terminal. (+5V)
58	VREF	I	Reference voltage input for A/D input port (+5V)
59	AVSS	—	Power supply terminal. (GND)
60	VOL DATA	I	Not used. (GND)
61	BALANCE		Not used. (GND)
62	R		Not used. (GND)
63	L		Not used. (GND)
64	KEY4	I	Key input. (analog)*2

*1 Test mode

When the power is on and pin ㉗ is set to "L" (TP601 is shortened.), the set enters the electrical adjustment test mode and the followings can be available.

(1) High speed playback

When the S901 (DUBBING) is turned ON in playback mode, high speed playback mode is actuated.

(2) Source monitor

Recording signals can be monitored through the OUTPUT terminal because the line short is removed in recording.

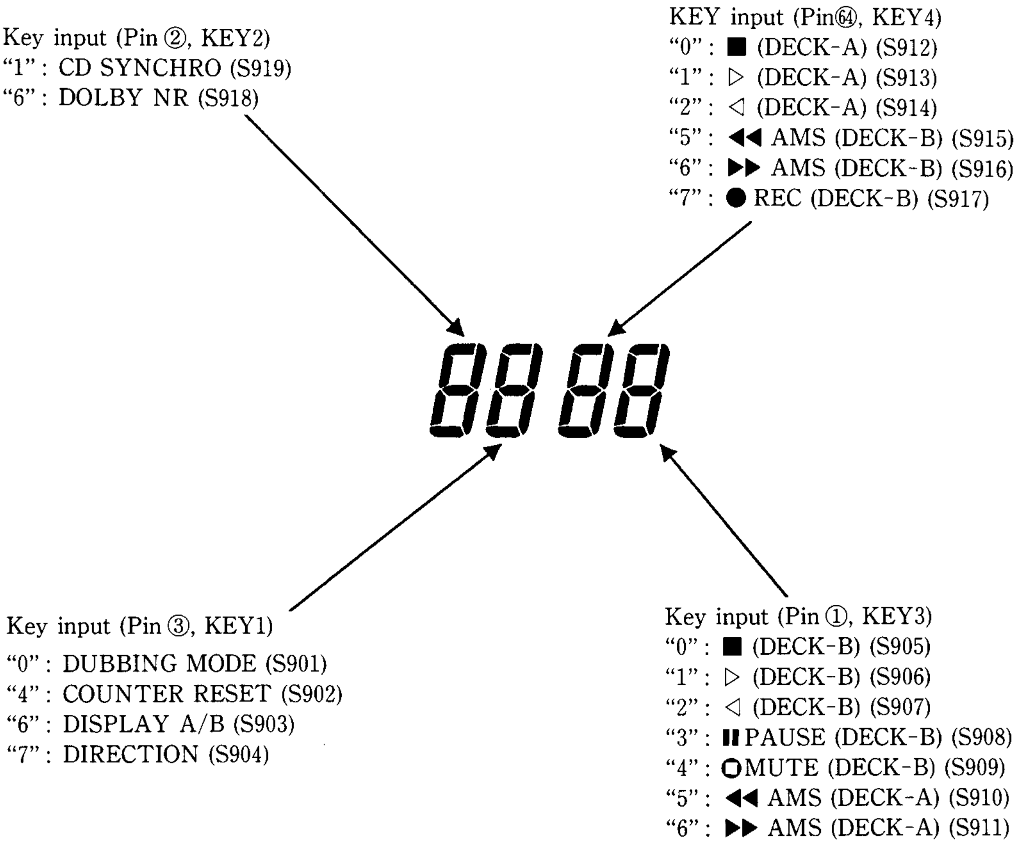
(3) Recording memory

Recording memory is set to ON when the tape counter is reset at the record start point.

(4) Mode display

The counter display as shown below when the counter mode is set to the deck A and the deck A button of deck A/B switch is pressed, or when the counter mode is the deck B and the deck B button is pressed.

(5) When this terminal is set back to "H" after it is set to the test mode in "L" of the power-on mode, all the FL indicator tubes are lit. (The mechanism block continues to operate as before it is set to "H".)



Key input (Pin ②, KEY2)
"1" : CD SYNCHRO (S919)
"6" : DOLBY NR (S918)

KEY input (Pin(64), KEY4)
"0" : ■ (DECK-A) (S912)
"1" : ▷ (DECK-A) (S913)
"2" : ◁ (DECK-A) (S914)
"5" : ◀◀ AMS (DECK-B) (S915)
"6" : ▶▶ AMS (DECK-B) (S916)
"7" : ● REC (DECK-B) (S917)

Key input (Pin ③, KEY1)
"0" : DUBBING MODE (S901)
"4" : COUNTER RESET (S902)
"6" : DISPLAY A/B (S903)
"7" : DIRECTION (S904)

Key input (Pin ①, KEY3)
"0" : ■ (DECK-B) (S905)
"1" : ▷ (DECK-B) (S906)
"2" : ◁ (DECK-B) (S907)
"3" : ❚❚ PAUSE (DECK-B) (S908)
"4" : ○ MUTE (DECK-B) (S909)
"5" : ◀◀ AMS (DECK-A) (S910)
"6" : ▶▶ AMS (DECK-A) (S911)

* 2 Key input (analog port)

Voltage (V) / Input port	0	0.3	0.8	1.3	1.9	2.4	3.0	3.6
Pin(64), KEY4	■ (DECK-A)	▷ (DECK-A)	◁ (DECK-A)	-	-	◀◀AMS (DECK-B)	▶▶AMS (DECK-B)	●REC (DECK-B)
Pin ①, KEY3	■ (DECK-B)	▷ (DECK-B)	◁ (DECK-B)	❚❚PAUSE (DECK-B)	○MUTE (DECK-B)	◀◀AMS (DECK-A)	▶▶AMS (DECK-A)	-
Pin ②, KEY2	-	CD SYNCHRO	-	-	-	-	DOLBY NR	-
Pin ③, KEY1	DUBBING MODE	-	-	-	COUNTER RESET	-	DISPLAY A/B	DIRECTION

IC602 Deck Section Mechanism Controller (M50925-482FP)

The mechanism deck is controlled by receiving data from IC601 (deck section system controller).

Pin No.	Pin Name	I/O	Description
1	RESET	I	Reset input from IC601 (system controller). "L": Reset.
2	STOP-A	I	Deck A stop switch (S81) input. "H": Stop.
3	AVSS	—	Power supply terminal (GND)
4	Vref	I	A/D input port reference voltage input.
5	A/D. IN-B	I	Deck B leaf switch input (analog). *1
6	A/D. IN-A	I	Deck A leaf switch input (analog). *1
7	AVDD	—	Power supply terminal. (+5 V)
8	N. C.		
9	T. REEL-B	I	Not used. (GND)
10	S. REEL-B	I	Deck B supply reel table sensor (IC81)
11	T. REEL-A	I	Not used. (GND)
12	S. REEL-A	I	Deck A supply reel table sensor (IC81)
13, 14	N. C.		
15	CM. ON-A	O	Deck A capstan motor (M901A) ON/OFF control output. "L": OFF, "H": ON.
16	CM. ON-B	O	Deck B capstan motor (M901B) ON/OFF control output. "L": OFF, "H": ON.
17	GND	—	Power supply terminal. (GND)
18	VSS	—	Power supply terminal. (GND)
19	CM. H/L	O	Capstan motor (M901A, M901B) speed control switch output. "H": High speed, "L": Normal speed.
20	FWD-B	O	Deck B reel motor (M902B) control output. *2 The reel motor is activated by combining these three outputs.
21	FF-B	O	
22	TRIG-B	O	
23	FWD-A	O	Deck A reel motor (M902A) control output. *2 The reel motor is activated by combining these three outputs.
24	FF-A	O	
25	TRIG-A	O	
26	N. C.		
27	S. REQ	O	Data request output to IC601 (deck section system controller).
28	S. CLK	I	Data transmission clock input from IC601 (deck section system controller).
29	S. OUT	O	Serial data output to IC601 (deck section system controller).
30	S. IN	I	Serial data input from IC601 (deck section system controller).
31, 32	N. C.		
33	XOUT	O	Clock output.
34	XIN	I	Clock input. (4 MHz)
35	STOP-B	I	Deck B stop switch (S81) input. "H": Stop.
36	VDD	—	Power supply terminal. (+5 V)

*1 HALF, REC safety tab leaf switch input

Voltage / Leaf switch	1	1.9	2.8	3.9	5
Half S86	ON				OFF
REC safety tab, side A S84	OFF	ON	OFF	ON	OFF
REC safety tab, side B S85	ON	ON	OFF	OFF	OFF
	↑ REC available for only side B.	↑ REC available for both sides A.	↑ REC inhibit for both sides A and B.	↑ REC available for only side A.	↑ Tape is not set.

Tape is set.

*2 Reel motor drive

Mode / Output port	FF	TRIG (kick)	STOP	FWD
Pin ㉑ and ㉔ FF	L	H	L	L
Pin ㉒ and ㉕ TRIG	H	L	L	H
Pin ⑳ and ㉓ FWD	H	H	L	L

Reel motor drive amplifier output voltage

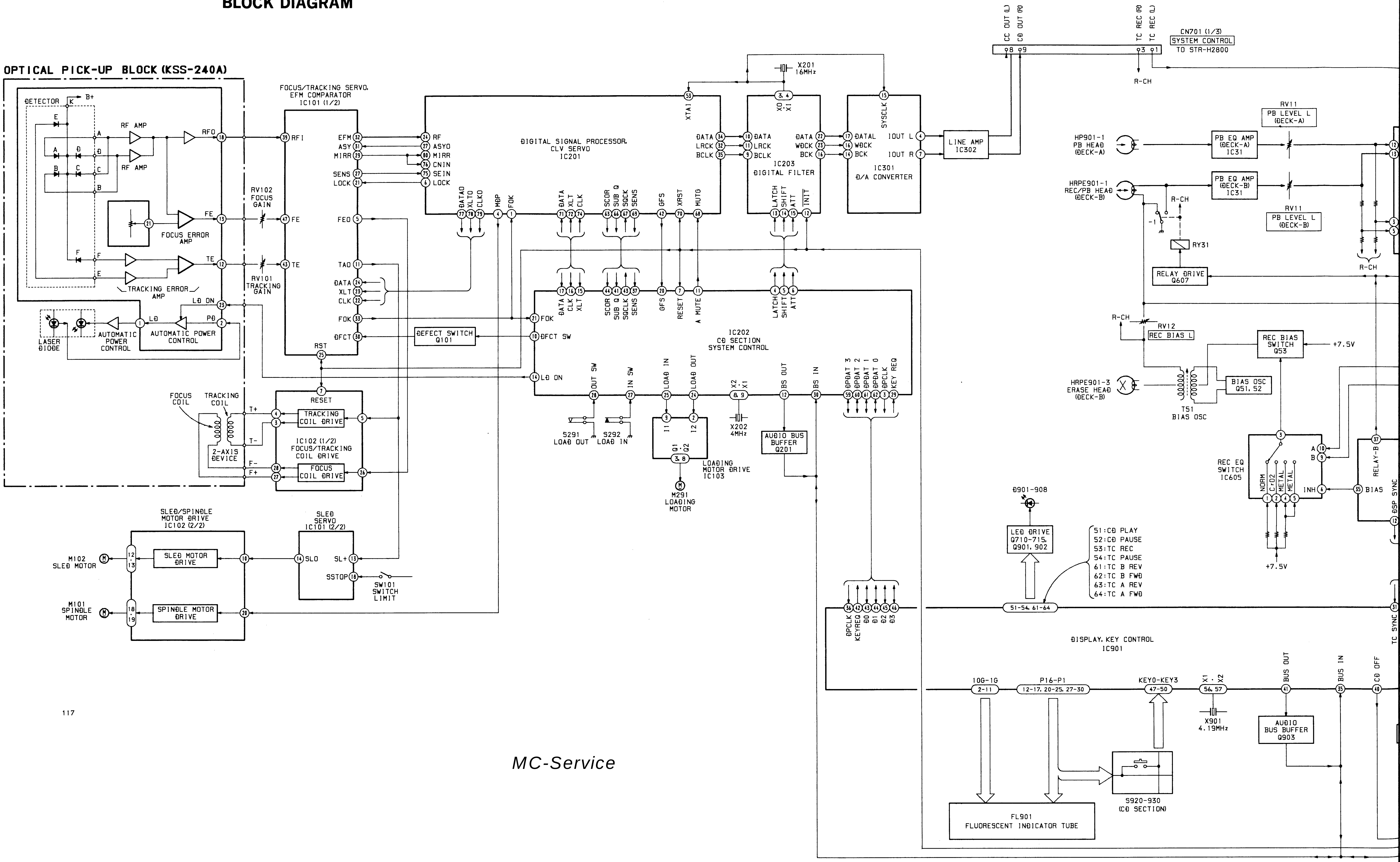
Output	Voltage
TRIG	+6 V
FF.REW	–5 V
FWD	–3 V

IC901 Display Controller (μPD75212AGF-569-3BE)

Fluorescent lamp indication and key are controlled by communication between IC202 (CD system controller) and IC601 (deck section system controller).

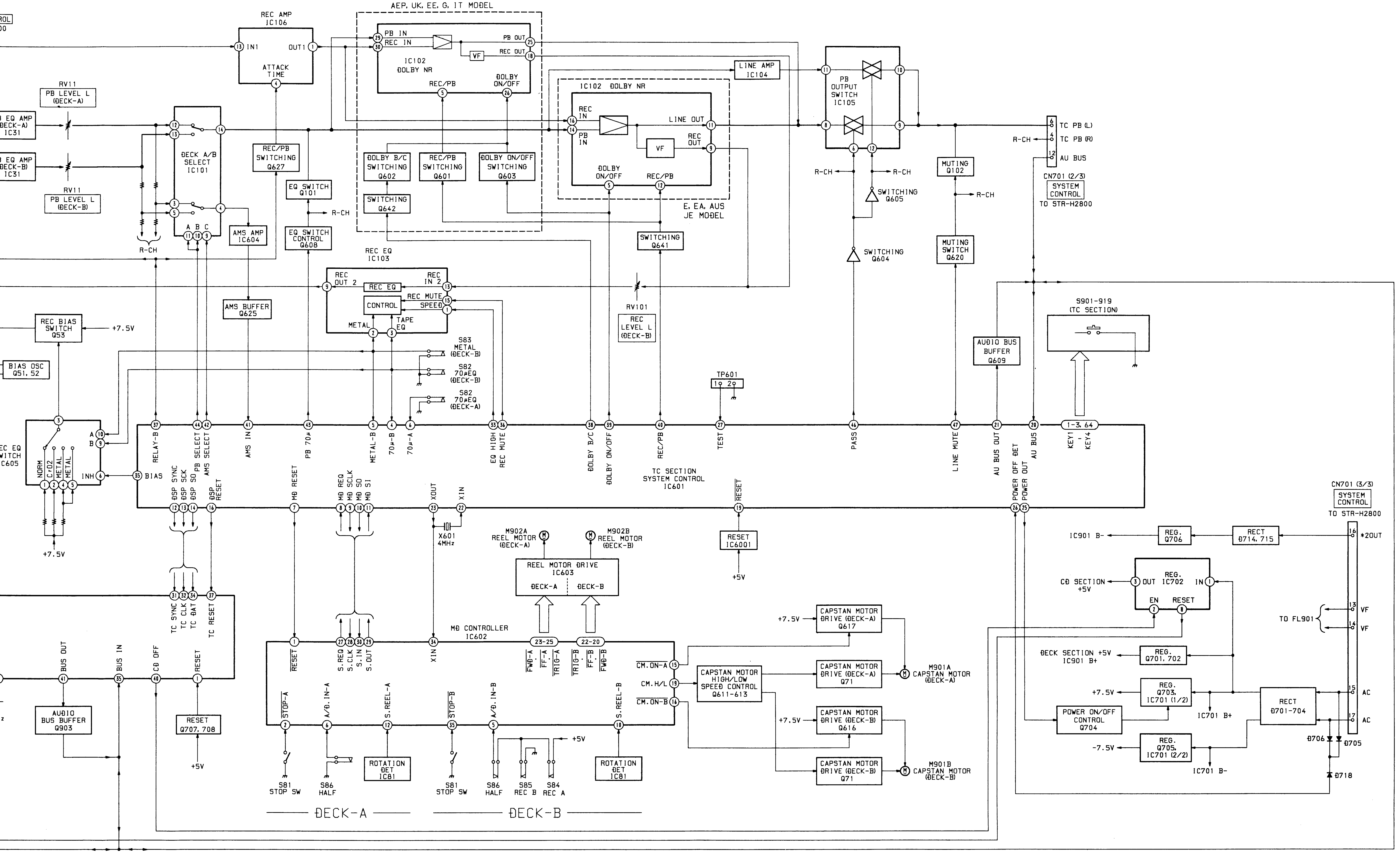
Pin No.	Pin Name	I/O	Description
1	RESET	I	Reset input.
2-11	10G-1G	O	FL indicator tube (FL901) grid output
12-17	P16-P11	O	FL indicator tube (FL901) segment output
18	V LOAD	—	Power supply for activating the FL indicator tube (−25V)
19	V PRE	—	Power supply for pre-driver
20	P10	O	FL indicator tube (FL901) segment output
21-24	P9-P6	O	FL indicator tube (FL901) segment output and CD section key output
25	P5	O	FL indicator tube (FL901) segment output
26	V_{DD}	—	Power supply terminal (+5.5V)
27-30	P4-P1	O	FL indicator tube (FL901) segment output
31	TC SYNC	I	Sync signal input which indicates the first byte of data sent from IC601 (deck section system controller)
32	TC CLK	I	Data transmission clock input from IC601 (deck section system controller)
33	—	—	Not used.
34	TC DAT	I	Serial data input from IC601 (deck section system controller)
35	BUS IN	I	Audio bus input
36	DPCLK	I	Display data input from IC202 (CD section system controller)
37	TC RES	I	Reset input from IC601 (deck section system controller). "L" : Reset
38	V_{SS}	—	Power supply terminal (GND)
39	—	—	Not used.
40	CD OFF	O	CD ON/OFF signal output. "H" : CD ON, "L" : CD OFF
41	BUS OUT	O	Audio bus output
42	KEY REQ	O	Key data request signal output to IC202 (CD section system controller)
43-46	D0-D3	I/O	Key/display data input/output to IC202 (CD section system controller)
47-50	KEY0-KEY3	I	CD section key input
51	CD PLAY	O	CD section PLAY LED output
52	CD PAUSE	O	CD section PAUSE LED output
53	TC REC	O	Deck section REC LED output
54	TC PAUSE	O	Deck section PAUSE LED output
55	—	—	Not used.
56	X1	I	Clock input (4.19MHz)
57	X2	O	Clock output
58, 59	V_{SS}	—	Power supply terminal (GND)
60	—	—	Not used.
61	TC B REV	O	Deck B section REV LED output
62	TC B FWD	O	Deck B section FWD LED output
63	TC A REV	O	Deck A section REV LED output
64	TC A FWD	O	Deck A section FWD LED output

SECTION 3
BLOCK DIAGRAM



OPTICAL PICK-UP BLOCK (KSS-240A)
DETECTOR
B+
RF AMP
RFO
FE
FOCUS ERROR AMP
TE
TRACKING ERROR AMP
LD ON
LD
PD
LASER DIODE
AUTOMATIC POWER CONTROL
FOCUS COIL
TRACKING COIL
2-AXIS DEVICE
T+
T-
F-
F+
RV102 FOCUS GAIN
RV101 TRACKING GAIN
FOCUS/TRACKING SERVO, EFM COMPARATOR IC101 (1/2)
RFI
EFM
ASY
MIRR
SENS
LOCK
FEO
TAO
DATA
XLT
CLK
FOK
DFCT
RST
DEFECT SWITCH Q101
RESET
TRACKING COIL DRIVE
IC102 (1/2) FOCUS/TRACKING COIL DRIVE
FOCUS COIL DRIVE
DIGITAL SIGNAL PROCESSOR, CLV SERVO IC201
RF
ASYO
MIRR
CNIN
SEIN
LOCK
DATAO
XLTO
CLKO
MDP
FOK
DATA XLT CLK
SCOR SUB Q SQCK SENS
GFS
XRST
MUTG
XTAI
DATA
LRCK
BCLK
X201 16MHz
XO XI
IC203 DIGITAL FILTER
DATA
WDCK
BCK
LATCH SHIFT ATT INIT
SYSCLK
DATAL
IOUT L
IOUT R
IC301 D/A CONVERTER
LINE AMP IC302
CC OUT (L)
CD OUT (R)
TC REC (R)
TC REC (L)
CN701 (1/3) SYSTEM CONTROL TO STR-H2800
R-CH
IC202 CD SECTION SYSTEM CONTROL
FOK
DFCT SW
LD ON
DATA CLK XLT
SCOR SUB Q SQCLK SENS
GFS
RESET
A MUTE
LATCH SHIFT ATT
OUT SW
IN SW
LOAD IN
LOAD OUT
X2 · X1
BS OUT
BS IN
DPDAT 3
DPDAT 2
DPDAT 1
DPDAT 0
DPCLK
KEY REQ
S291 LOAD OUT
S292 LOAD IN
I1 I2
Q1 · Q2
LOADING MOTOR DRIVE IC103
M291 LOADING MOTOR
X202 4MHz
AUDIO BUS BUFFER Q201
SLED/SPINDLE MOTOR DRIVE IC102 (2/2)
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
M102 SLED MOTOR
M101 SPINDLE MOTOR
SLED SERVO IC101 (2/2)
SLO
SL+
SSTOP
SW101 SWITCH LIMIT
HP901-1 PB HEAD (DECK-A)
HRPE901-1 REC/PB HEAD (DECK-B)
HRPE901-3 ERASE HEAD (DECK-B)
PB EQ AMP (DECK-A) IC31
PB EQ AMP (DECK-B) IC31
RV11 PB LEVEL L (DECK-A)
RV11 PB LEVEL L (DECK-B)
RY31
RELAY DRIVE Q607
RV12 REC BIAS L
REC BIAS SWITCH Q53
+7.5V
BIAS OSC Q51, 52
T51 BIAS OSC
REC EQ SWITCH IC605
NORM CrO2 METAL METAL
INH
A B
BIAS
RELAY-B
DSP SYNC
TC SYNC
D901-908
LED DRIVE Q710-715, Q901, 902
51:CD PLAY
52:CD PAUSE
53:TC REC
54:TC PAUSE
61:TC B REV
62:TC B FWD
63:TC A REV
64:TC A FWD
51-54, 61-64
DPCLK KEYREQ D0 D1 D2 D3
DISPLAY, KEY CONTROL IC901
10G-1G
P16-P1
KEY0-KEY3
X1 · X2
BUS OUT
BUS IN
CD OFF
X901 4.19MHz
AUDIO BUS BUFFER Q903
FL901 FLUORESCENT INDICATOR TUBE
S920-930 (CD SECTION)

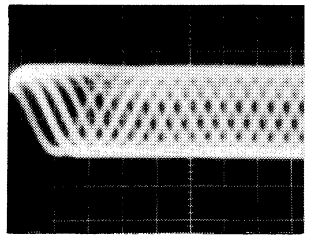
117

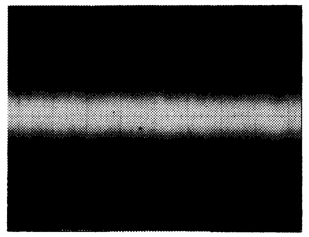

REC AMP IC106
IN1
OUT1
ATTACK TIME
AEP, UK, EE, G, IT MODEL
PB IN
REC IN
PB OUT
REC OUT
VF
IC102 DOLBY NR
REC/PB
DOLBY ON/OFF
LINE AMP IC104
PB OUTPUT SWITCH IC105
IC102 DOLBY NR
LINE OUT
REC OUT
E, EA, AUS JE MODEL
RV11 PB LEVEL L (DECK-A)
EQ AMP (DECK-A) IC31
EQ AMP (DECK-B) IC31
RV11 PB LEVEL L (DECK-B)
DECK A/B SELECT IC101
REC/PB SWITCHING Q627
EQ SWITCH Q101
EQ SWITCH CONTROL Q608
AMS AMP IC604
AMS BUFFER Q625
DOLBY B/C SWITCHING Q602
REC/PB SWITCHING Q601
DOLBY ON/OFF SWITCHING Q603
SWITCHING Q642
SWITCHING Q641
SWITCHING Q605
SWITCHING Q604
MUTING Q102
MUTING SWITCH Q620
R-CH
TC PB (L)
TC PB (R)
AU BUS
CN701 (2/3) SYSTEM CONTROL TO STR-H2800
REC EQ IC103
REC OUT 2
REC IN 2
REC EQ
CONTROL
REC MUTE
SPEED
METAL
TAPE EQ
S83 METAL (DECK-B)
S82 70μEQ (DECK-B)
S82 70μEQ (DECK-A)
RV101 REC LEVEL L (DECK-B)
TP601
REC BIAS SWITCH Q53
+7.5V
BIAS OSC Q51, 52
REC EQ SWITCH IC605
NORM CrO2 METAL METAL
INH
BIAS
S901-919 (TC SECTION)
AUDIO BUS BUFFER Q609
RELAY-B
PB SELECT
AMS SELECT
AMS IN
PB 70μ
METAL-B
70μ-B
70μ-A
EQ HIGH
REC MUTE
DOLBY B/C
DOLBY ON/OFF
REC/PB
TEST
PASS
LINE MUTE
AU BUS OUT
AU BUS
KEY1 - KEY4
TC SECTION SYSTEM CONTROL IC601
DSP SYNC
DSP SCK
DSP SO
DSP RESET
MD RESET
MD REQ
MD SCLK
MD SO
MD SI
XOUT
XIN
RESET
POWER OFF DET
POWER OUT
X601 4MHz
M902A REEL MOTOR (DECK-A)
M902B REEL MOTOR (DECK-B)
REEL MOTOR DRIVE IC603
DECK-A
DECK-B
RESET IC6001
+5V
CN701 (3/3) SYSTEM CONTROL TO STR-H2800
IC901 B-
REG. Q706
RECT D714, 715
*2OUT
CD SECTION +5V
REG. IC702
OUT
IN
EN
RESET
TO FL901
VF
DECK SECTION +5V IC901 B+
REG. Q701, 702
REG. Q703, IC701 (1/2)
IC701 B+
RECT D701-704
AC
POWER ON/OFF CONTROL Q704
REG. Q705, IC701 (2/2)
-7.5V
IC701 B-
D706
D705
D718
TC SYNC
TC CLK
TC DAT
TC RESET
BUS OUT
BUS IN
CD OFF
AUDIO BUS BUFFER Q903
RESET Q707, 708
MD CONTROLLER IC602
S.REQ
S.CLK
S.IN
S.OUT
FWD-A
FF-A
TRIG-A
TRIG-B
FF-B
FWD-B
CM.ON-A
CM.H/L
CM.ON-B
CAPSTAN MOTOR HIGH/LOW SPEED CONTROL Q611-613
CAPSTAN MOTOR DRIVE (DECK-A) Q617
CAPSTAN MOTOR DRIVE (DECK-A) Q71
CAPSTAN MOTOR DRIVE (DECK-B) Q616
CAPSTAN MOTOR DRIVE (DECK-B) Q71
M901A CAPSTAN MOTOR (DECK-A)
M901B CAPSTAN MOTOR (DECK-B)
STOP-A
A/D.IN-A
S.REEL-A
STOP-B
A/D.IN-B
S.REEL-B
ROTATION DET IC81
S81 STOP SW
S86 HALF
S85 REC B
S84 REC A
DECK-A
DECK-B

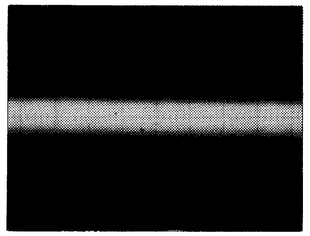
MC-Service

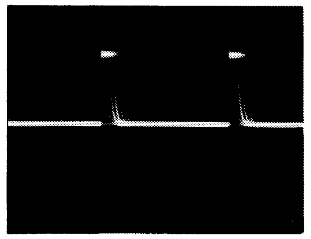
SECTION 4
CHANGE OF CD MECHANISM

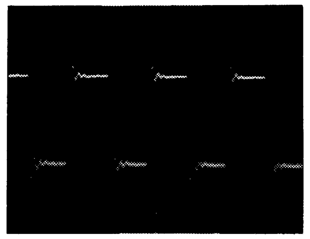
- **Waveforms**

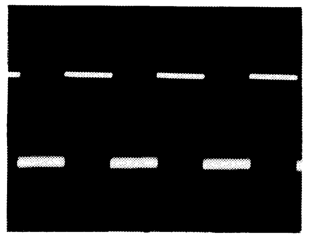

❶ IC101 ㊴pin (RFI)
PLAY mode
Approx. 1.2Vp-p

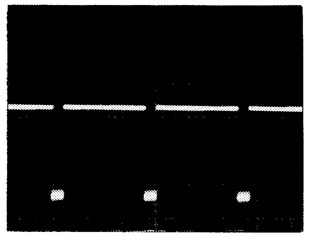

❷ IC101 ㊸pin (TE)
PLAY mode
Approx. 600mVp-p

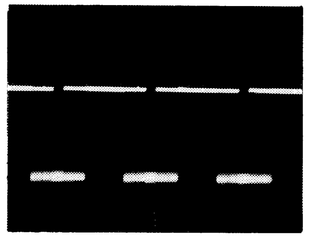

❸ IC101 ㊼pin (FE)
PLAY mode
Approx. 60mVp-p

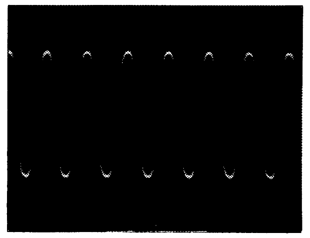

❹ IC201 ④pin (MDP)
PLAY mode
2Vp-p, 7.6µsec

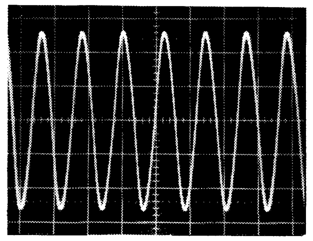

❺ IC201 ㊶pin (XPCLK)
6.8Vp-p, 0.23µsec

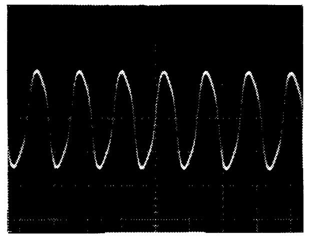

❻ IC201 ㊸pin (RFCK)
5Vp-p, 140µsec

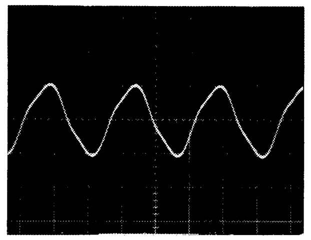

❼ IC201 ㊻pin (MNT3)
5.2Vp-p, 140µsec

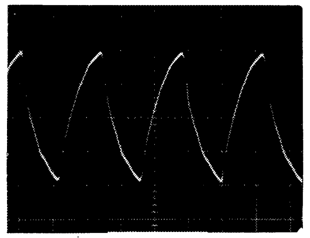

❽ IC201 ㊼pin (MNT1),
IC201 ㊽pin (MNT2)
5.2Vp-p, 140µsec

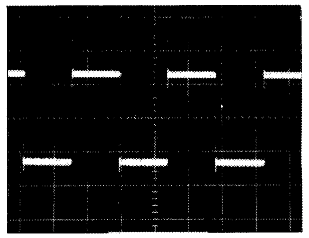

❾ IC201 ㊿pin (XTAI)
3.8Vp-p, 55nsec


❿ IC201 (54)pin (XTAO)
5.2Vp-p, 55nsec


⓫ IC202 ⑧pin (X2)
6Vp-p, 0.26µsec


⓬ IC202 ⑨pin (X1)
4.4Vp-p, 0.26µsec

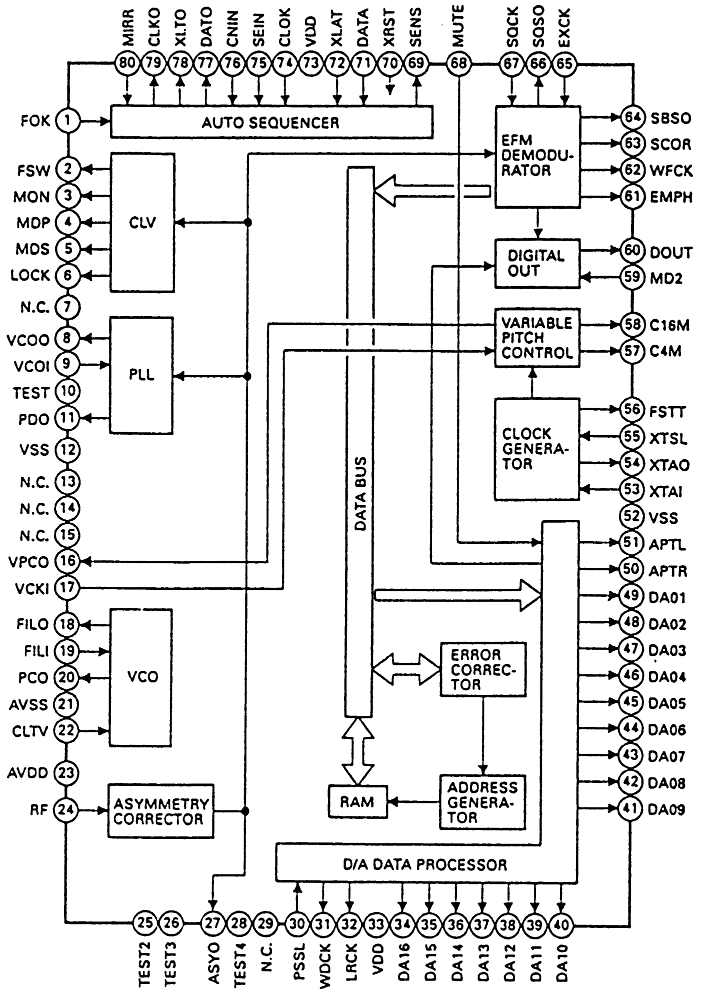

⓭ IC301 ⑭pin (BCK)
IC201 ⑦pin (BCK)
3.6Vp-p, 0.12µsec


⓮ IC301 ⑯pin (WDCK)
IC201 ⑮pin (LRCK)
5.2Vp-p, 5.6µsec

MC-Service

- **IC Block Diagram**

IC201 CXD2500BQ


MIRR
CLKO
XLTO
DATO
CNIN
SEIN
CLOK
VDD
XLAT
DATA
XRST
SENS
MUTE
SQCK
SQSO
EXCK
AUTO SEQUENCER
EFM DEMODU-RATOR
CLV
PLL
VCO
ASYMMETRY CORRECTOR
DIGITAL OUT
VARIABLE PITCH CONTROL
CLOCK GENERA-TOR
DATA BUS
ERROR CORREC-TOR
RAM
ADDRESS GENERA-TOR
D/A DATA PROCESSOR
FOK ①
FSW ②
MON ③
MDP ④
MDS ⑤
LOCK ⑥
N.C. ⑦
VCOO ⑧
VCOI ⑨
TEST ⑩
PDO ⑪
VSS ⑫
N.C. ⑬
N.C. ⑭
N.C. ⑮
VPCO ⑯
VCKI ⑰
FILO ⑱
FILI ⑲
PCO ⑳
AVSS ㉑
CLTV ㉒
AVDD ㉓
RF ㉔
(64) SBSO
(63) SCOR
(62) WFCK
(61) EMPH
(60) DOUT
(59) MD2
(58) C16M
(57) C4M
(56) FSTT
(55) XTSL
(54) XTAO
(53) XTAI
(52) VSS
(51) APTL
㊿ APTR
㊾ DA01
㊽ DA02
㊼ DA03
㊻ DA04
㊺ DA05
㊹ DA06
㊸ DA07
㊷ DA08
㊶ DA09
TEST2
TEST3
ASYO
TEST4
N.C.
PSSL
WDCK
LRCK
VDD
DA16
DA15
DA14
DA13
DA12
DA11
DA10

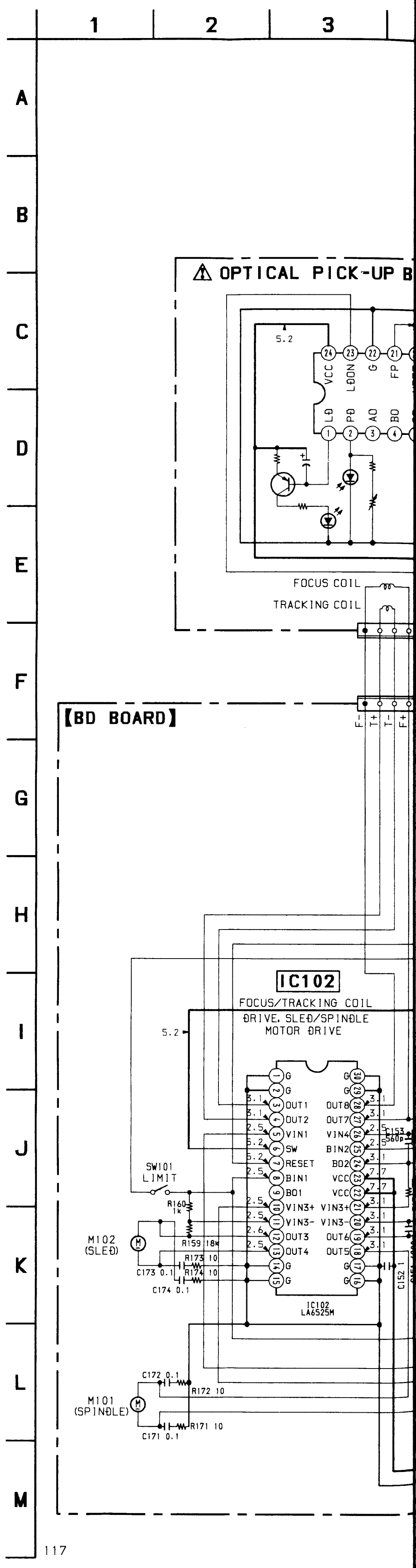
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : internal component.

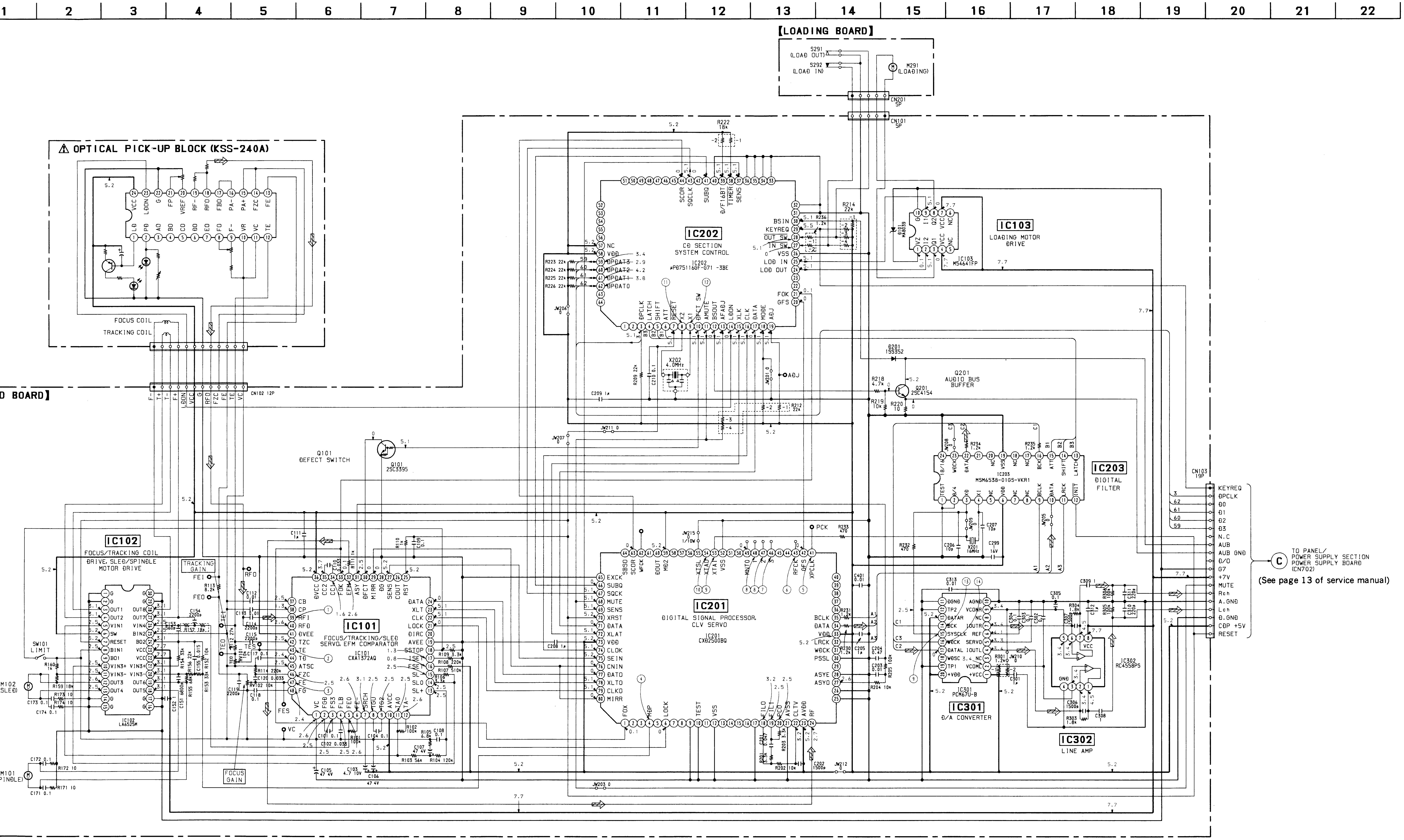
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▬ : B+ Line
- ▭ : adjustment for repair.
- Voltage are dc with respect to ground under no-signal conditions.
- No mark: STOP
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : CD

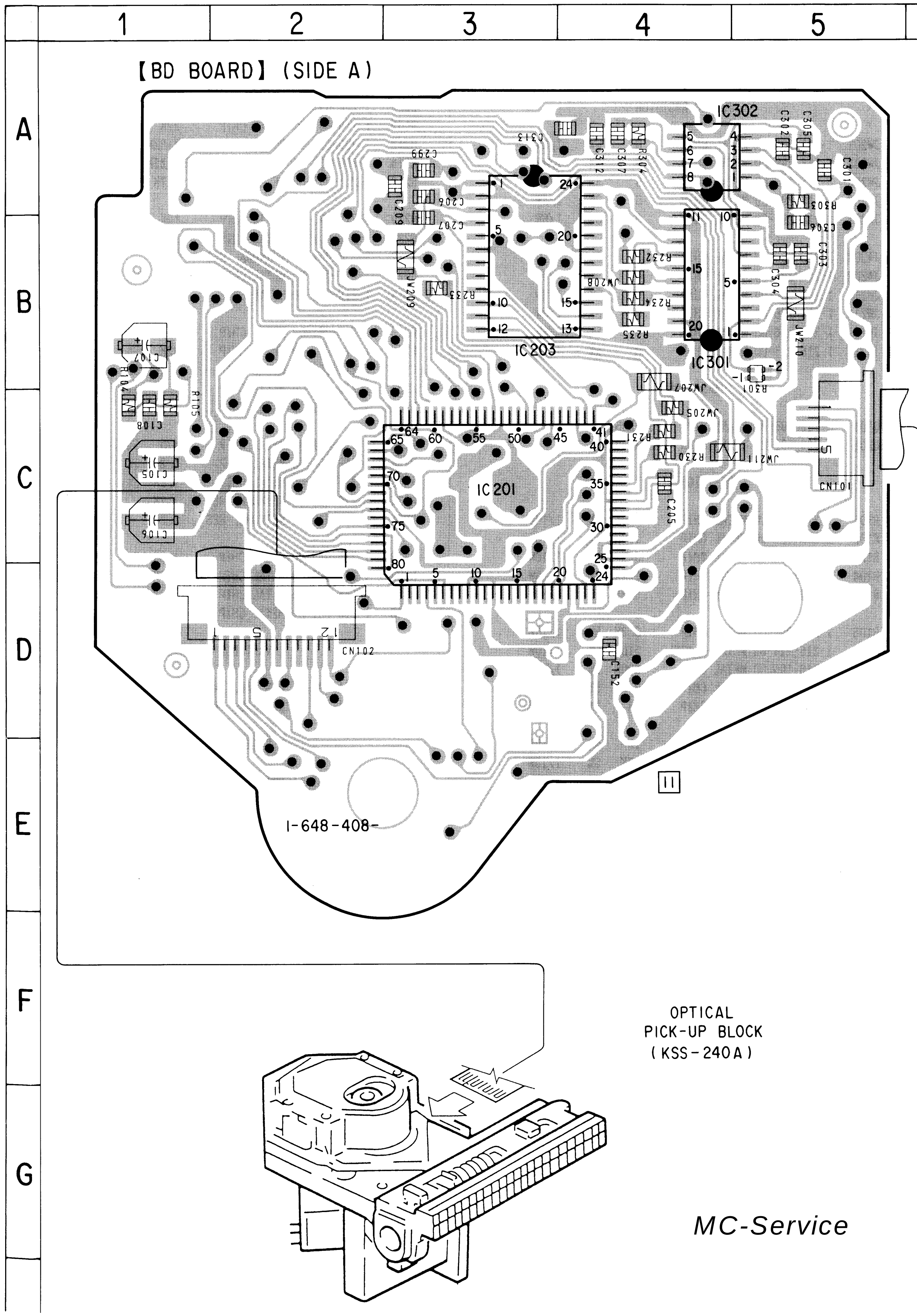
4-1. SCHEMATIC DIAGRAM (CD SECT

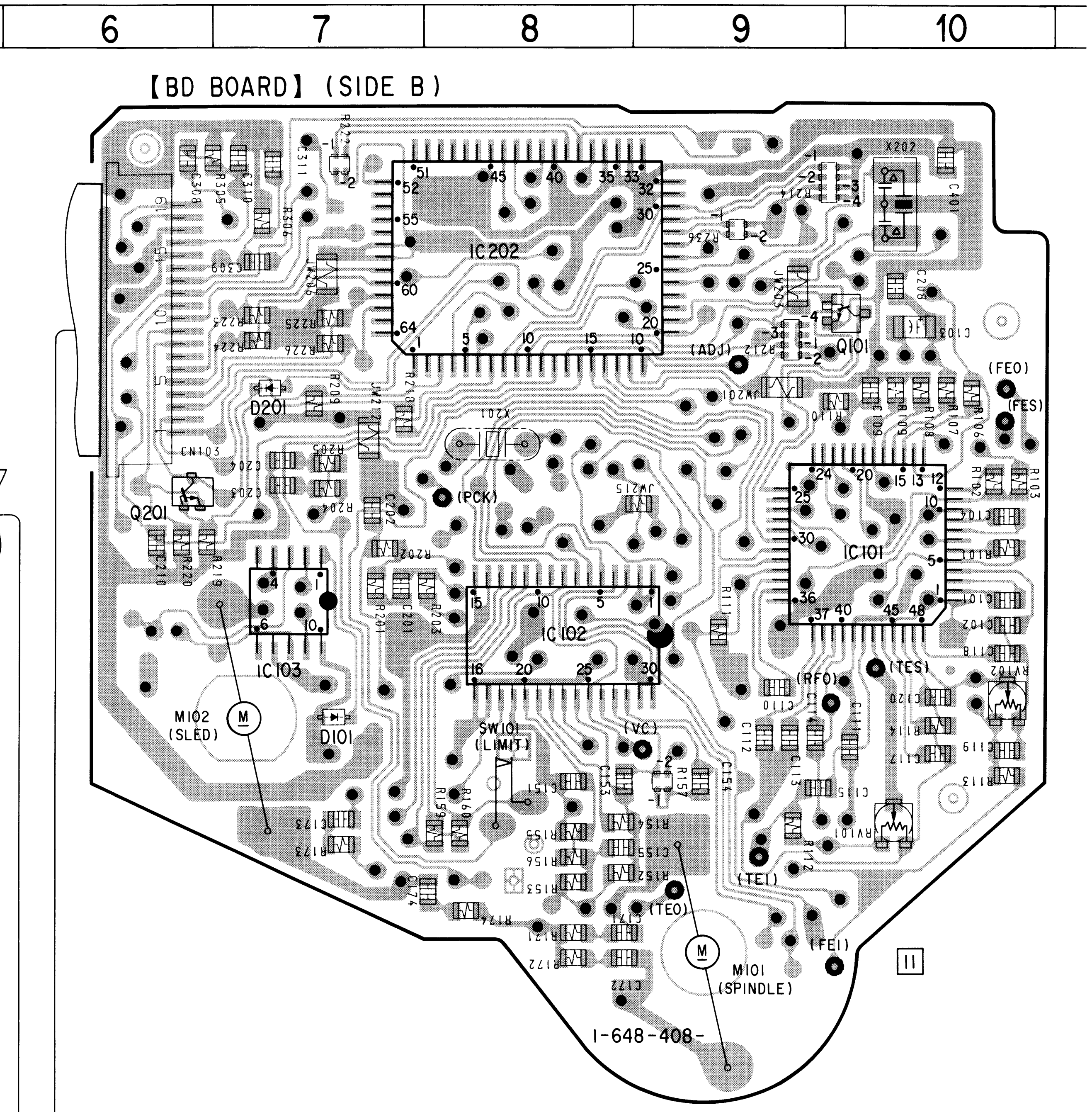

1
2
3
A
B
C
D
E
F
G
H
I
J
K
L
M
⚠ OPTICAL PICK-UP B
FOCUS COIL
TRACKING COIL
[BD BOARD]
IC102
FOCUS/TRACKING COIL DRIVE, SLED/SPINDLE MOTOR DRIVE
IC102 LA6525M
SW101 LIMIT
M102 (SLED)
M101 (SPINDLE)
5.2
117

SCHEMATIC DIAGRAM (CD SECTION)

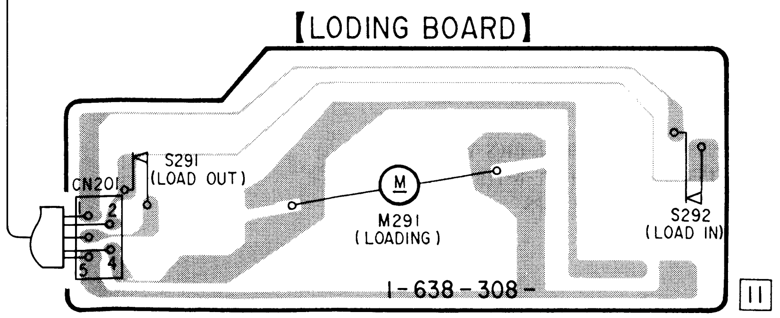

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
【LOADING BOARD】
S291 (LOAD OUT)
S292 (LOAD IN)
M291 (LOADING)
CN201 5P
CN101 5P
⚠ OPTICAL PICK-UP BLOCK (KSS-240A)
FOCUS COIL
TRACKING COIL
CN102 12P
D BOARD】
IC202
CD SECTION SYSTEM CONTROL
IC202 μPD75116GF-G71-3BE
R222 18k
R223 22k
R224 22k
R225 22k
R226 22k
X202 4.0MHz
R209 22k
C210 0.1
C209 1μ
JW206
JW207
JW211
JW201
R212 22k
R214 22k
R236 1.2k
IC103
LOADING MOTOR DRIVE
IC103 M54641FP
D101 MA8039
Q201 1SS352
Q201 AUDIO BUS BUFFER
Q201 2SC4154
R218 4.7k
R219 10k
R220 10
ADJ
Q101 DEFECT SWITCH
Q101 2SC3395
IC203
DIGITAL FILTER
IC203 MSM6538-01GS-VKR1
R234 1.2k
R235 1.2k
X201 16MHz
C206 10p
C207 10p
C299 1μ 16V
R232 470
CN103 19P
KEYREQ
DPCLK
D0
D1
D2
D3
N.C
AUB
AUB GND
D/O
G7
+7V
MUTE
Rch
A.GND
Lch
D.GND
CDP +5V
RESET
TO PANEL/ POWER SUPPLY SECTION POWER SUPPLY BOARD (CN702)
C
(See page 13 of service manual)
IC102
FOCUS/TRACKING COIL DRIVE, SLED/SPINDLE MOTOR DRIVE
IC102 LA6525M
TRACKING GAIN
FOCUS GAIN
SW101 LIMIT
M102 (SLED)
M101 (SPINDLE)
IC101
FOCUS/TRACKING/SLED SERVO, EFM COMPARATOR
IC101 CXA1372AQ
RV101
RV102 10k
IC201
DIGITAL SIGNAL PROCESSOR, CLV SERVO
IC201 CXD2500BQ
JW215 1/10W
PCK
R233 470
IC301
D/A CONVERTER
IC301 PCM67U-B
IC302
LINE AMP
IC302 RC4558PS
JW203
JW212
C202 1500p
R202 10k
R204 10k
R205 100k
C401 0.01
C105 47 4V
C103 4.7 10V
C106 47 4V
R103 56k
R104 120k
R102 100k
C107 47 4V
5.2
7.7

4-2. PRINTED WIRING BOARDS (CD SECTION)


1
2
3
4
5
A
B
C
D
E
F
G
【BD BOARD】 (SIDE A)
IC302
IC203
IC301
IC201
CN101
CN102
1-648-408-
OPTICAL
PICK-UP BLOCK
(KSS-240A)


6
7
8
9
10
【BD BOARD】 (SIDE B)
IC202
IC101
IC102
IC103
D201
D101
Q201
Q101
X202
X201
CN103
(PCK)
(ADJ)
(FEO)
(FES)
(RFO)
(TES)
(VC)
(TEO)
(TEI)
(FEI)
M102
(SLED)
M101
(SPINDLE)
SW101
(LIMIT)
RV101
RV102
1-648-408-

B TO PANEL / POWER SUPPLY SECTION
POWER SUPPLY BOARD
(CN702)
(AEP Model: See page 18 of service manual)
(E Model: See page 16 of service manual)


【LODING BOARD】
CN201
S291
(LOAD OUT)
M291
(LOADING)
S292
(LOAD IN)
1-638-308-

- **Semiconductor Location**

Ref. No.	Location
D101	D-7
D201	B-7
IC101	C-10
IC102	C-8
IC103	C-7
IC201	C-3
IC202	B-8
IC203	B-3
IC301	B-4
IC302	A-4
Q101	B-9
Q201	C-6

Note on Printed Wiring Board:

- ○—— : Indicated a lead wire mounted on the component side
- ● : Through hole.
- ▨ : **Pattern from the side which enables seeing**
- Saudi Arabia, Australian, Tourist models are identical to E model.
- UK, East European, German, Italian models are identical to AEP model.

BD

4-3. ELECTRICAL PARTS LIST (CD SECTION)

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA ..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-4649-711-A	BD BOARD, COMPLETE ******************			
		< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C102	1-163-989-11	CERAMIC CHIP	0. 033uF	10%	25V
C103	1-135-155-21	TANTALUM CHIP	4. 7uF	10%	16V
C104	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C105	1-126-607-11	ELECT CHIP	47uF	20%	4V
C106	1-126-607-11	ELECT CHIP	47uF	20%	4V
C107	1-126-607-11	ELECT CHIP	47uF	20%	4V
C108	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C109	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C110	1-163-989-11	CERAMIC CHIP	0. 033uF	10%	25V
C111	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C113	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C114	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V
C115	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V
C117	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C118	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C119	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V
C120	1-163-989-11	CERAMIC CHIP	0. 033uF	10%	25V
C151	1-163-019-00	CERAMIC CHIP	0. 0068uF	10%	50V
C152	1-164-346-11	CERAMIC CHIP	1uF		16V
C153	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C154	1-164-695-11	CERAMIC CHIP	0. 0022uF	5%	50V
C155	1-163-023-00	CERAMIC CHIP	0. 015uF	5%	50V
C171	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C172	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C173	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C174	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C201	1-163-809-11	CERAMIC CHIP	0. 047uF	10%	25V
C202	1-163-145-00	CERAMIC CHIP	0. 0015uF	5%	50V
C203	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C204	1-164-005-11	CERAMIC CHIP	0. 47uF		25V
C205	1-164-346-11	CERAMIC CHIP	1uF		16V
C206	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C207	1-163-093-00	CERAMIC CHIP	10PF	5%	50V

Ref. No.	Part No.	Description			Remark
C208	1-164-346-11	CERAMIC CHIP	1uF		16V
C209	1-164-346-11	CERAMIC CHIP	1uF		16V
C210	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C299	1-164-346-11	CERAMIC CHIP	1uF		16V
C301	1-164-346-11	CERAMIC CHIP	1uF		16V
C302	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C303	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C304	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C305	1-163-038-00	CERAMIC CHIP	0. 1uF		25V
C306	1-163-145-00	CERAMIC CHIP	0. 0015uF	5%	50V
C307	1-163-145-00	CERAMIC CHIP	0. 0015uF	5%	50V
C308	1-164-346-11	CERAMIC CHIP	1uF		16V
C309	1-164-346-11	CERAMIC CHIP	1uF		16V
C310	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C311	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C312	1-164-346-11	CERAMIC CHIP	1uF		16V
C313	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
C401	1-164-232-11	CERAMIC CHIP	0. 01uF		50V
		< CONNECTOR >			
CN101	1-580-858-11	SOCKET, CONNECTOR (SMT) 5P			
CN102	1-580-866-11	SOCKET, CONNECTOR (SMT) 12P			
CN103	1-580-872-41	SOCKET, CONNECTOR (SMT) 19P			
		< DIODE >			
D101	8-719-422-12	DIODE	MA8039		
D201	8-719-016-74	DIODE	1SS352		
		< IC >			
IC101	8-752-053-73	IC	CXA1372AQ		
IC102	8-759-823-48	IC	LA6525M		
IC103	8-759-636-20	IC	M54641FP		
IC201	8-752-352-93	IC	CXD2500BQ		
IC202	8-759-173-60	IC	uPD75116GF-G71-3BE		
IC203	8-759-098-27	IC	MSM6538-01GS-VKR1		
IC301	8-759-155-52	IC	PCM-67U-B-T1B		
IC302	8-759-996-43	IC	RC4558PS		

BD **LOADING**

Ref. No.	Part No.	Description			Remark
		< JUMPER RESISTOR >			
JW201	1-216-296-00	METAL CHIP	0	5%	1/8W
JW203	1-216-296-00	METAL CHIP	0	5%	1/8W
JW205	1-216-295-00	METAL CHIP	0	5%	1/10W
JW206	1-216-296-00	METAL CHIP	0	5%	1/8W
JW207	1-216-296-00	METAL CHIP	0	5%	1/8W
JW208	1-216-295-00	METAL CHIP	0	5%	1/10W
JW209	1-216-296-00	METAL CHIP	0	5%	1/8W
JW210	1-216-296-00	METAL CHIP	0	5%	1/8W
JW211	1-216-296-00	METAL CHIP	0	5%	1/8W
JW212	1-216-296-00	METAL CHIP	0	5%	1/8W
JW215	1-216-295-00	METAL CHIP	0	5%	1/10W
		< TRANSISTOR >			
Q101	8-729-805-45	TRANSISTOR	2SC3395		
Q201	8-729-602-21	TRANSISTOR	2SC4154-F		
		< RESISTOR >			
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-091-00	METAL CHIP	56K	5%	1/10W
R104	1-216-099-00	METAL CHIP	120K	5%	1/10W
R105	1-216-069-00	METAL CHIP	6. 8K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3. 3K	5%	1/10W
R107	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R108	1-216-105-00	METAL CHIP	220K	5%	1/10W
R109	1-216-061-00	METAL CHIP	3. 3K	5%	1/10W
R110	1-216-049-00	METAL CHIP	1K	5%	1/10W
R111	1-216-049-00	METAL CHIP	1K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-071-00	METAL CHIP	8. 2K	5%	1/10W
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-085-00	METAL CHIP	33K	5%	1/10W
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-236-427-11	NETWORK, RES	18K		
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W
R201	1-216-061-00	METAL CHIP	3. 3K	5%	1/10W
R202	1-216-073-00	METAL CHIP	10K	5%	1/10W
R203	1-216-061-00	METAL CHIP	3. 3K	5%	1/10W
R204	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R205	1-216-097-00	METAL CHIP	100K	5%	1/10W
R209	1-216-081-00	METAL CHIP	22K	5%	1/10W
R212	1-239-039-11	RESISTOR, NETWORK 22K			
R214	1-239-039-11	RESISTOR, NETWORK 22K			
R218	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R219	1-216-073-00	METAL CHIP	10K	5%	1/10W
R220	1-216-001-00	METAL CHIP	10	5%	1/10W
R222	1-236-427-11	NETWORK, RES	18K		
R223	1-216-081-00	METAL CHIP	22K	5%	1/10W
R224	1-216-081-00	METAL CHIP	22K	5%	1/10W
R225	1-216-081-00	METAL CHIP	22K	5%	1/10W
R226	1-216-081-00	METAL CHIP	22K	5%	1/10W
R230	1-216-051-00	METAL CHIP	1. 2K	5%	1/10W
R231	1-216-051-00	METAL CHIP	1. 2K	5%	1/10W
R232	1-216-041-00	METAL CHIP	470	5%	1/10W
R233	1-216-041-00	METAL CHIP	470	5%	1/10W
R234	1-216-051-00	METAL CHIP	1. 2K	5%	1/10W
R235	1-216-051-00	METAL CHIP	1. 2K	5%	1/10W
R236	1-236-413-11	NETWORK, RES	1. 2K		
R301	1-236-413-11	NETWORK, RES	1. 2K		
R303	1-216-055-00	METAL CHIP	1. 8K	5%	1/10W
R304	1-216-055-00	METAL CHIP	1. 8K	5%	1/10W
R305	1-216-097-00	METAL CHIP	100K	5%	1/10W
R306	1-216-097-00	METAL CHIP	100K	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-241-395-11	RES, ADJ, METAL GLAZE 10K			
RV102	1-241-395-11	RES, ADJ, METAL GLAZE 10K			
		< SWITCH >			
SW101	1-572-085-11	SWITCH, LEAF (LIMIT)			
		< VIBRATOR >			
X201	1-567-908-11	VIBRATOR, CRYSTAL (16MHz)			
X202	1-579-216-11	VIBRATOR, CERAMIC (4. 0MHz)			

****

Ref. No.	Part No.	Description			Remark
*	1-638-308-11	LOADING BOARD *************			
		< CONNECTOR >			
CN201	1-580-918-11	HOUSING, CONNECTOR 5P			
		< SWITCH >			
S291	1-571-924-11	SWITCH, LEAF (LOAD OUT)			
S292	1-571-924-11	SWITCH, LEAF (LOAD IN)			

****

MC-Service

Sony Corporation
Audio Group

English
93F0473-1
Printed in Japan
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Published by Audio Sector Quality Assurance Dept.

STR-H2800

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model
Tourist Model

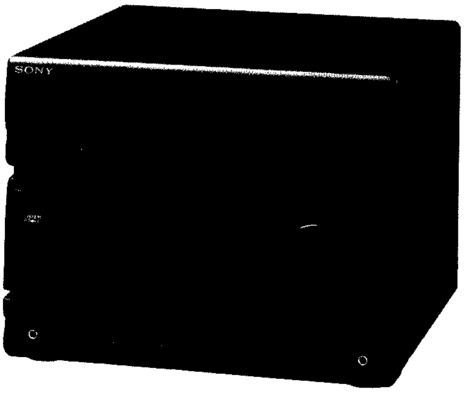

PHOTO : AEP model

STR-H2800 are the
TUNER/AMPLIFIER SECTION
in FH-E6X and MHC-2800.

SPECIFICATIONS

Tuner/Amplifier

Tuner section	
System	FM stereo, FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 — 108 MHz
Antenna terminals	75 ohms unbalanced
Intermediate frequency	10.7 MHz
AM tuner section	
Tuning range	AEP, UK, EE model : MW: 531 — 1,602 kHz LW: 153 — 279 kHz E, EA, AUS, JE model : MW: 531 — 1,602 kHz (with the MW tuning interval set at 9 kHz) 530 — 1,710 kHz (with the MW tuning interval set at 10 kHz, except for the Middle Eastern model) SW: 5.95 — 17.9 MHz
Antenna	AM loop antenna, External antenna terminals
Intermediate frequency	450 kHz
Amplifier section	
(AEP, UK, EE model) :	
Continuous RMS power output	40 + 40 watts (6 ohms at 1 kHz, DIN) 43 + 43 watts (6 ohms at 1 kHz, 5% THD)
Music power output	120 + 120 watts (6 ohms at 1 kHz, 10% THD)
(AUS model) :	
Continuos RMS power output	50 + 50 watts (6 ohms at 1 kHz, 5% THD)
Peak music power output	700 watts (4 speakers driven)
(E, EA, JE model) :	
Peak music power output	700 watts (4 speakers driven)
Continuos RMS power output	50 + 50 watts (6 ohms at 1 kHz, 5% THD)
Inputs	MIC MIX (minijack): sensitivity: 1 mV, impedance: 600 ohms MD/DAT IN (phono jacks): sensitivity: 250 mV, impedance: 47 kilohms AEP, UK, EE model : PHONO (phono jacks): sensitivity: 5 mV, impedance: 47 kilohms E, EA, AUS, JE model : VIDEO/AUX (phono jacks): sensitivity: 250 mV, impedance: 47 kilohms
Outputs	HEADPHONES (stereo minijack): accepts headphones of 8 ohms or more. SPEAKER: accepts speakers of 6 to 16 ohms. SURROUND SPEAKER: AEP, UK, EE model : accepts speakers of 16 ohms. E, EA, AUS, JE model : accepts speakers of 8 to 16 ohms. MD/DAT OUT voltage: 250 mV impedance: 2 kilohms

– continued on next page –

TUNER AMP

SONY®

MICROFILM

MC-Service

General

Power requirements	AEP, UK, EE model : 220 V – 230 V, 50/60 Hz UK, AUS model : 240 V, 50Hz E, EA, JE model : 110 – 120 V or 220 – 240 V AC adjustable, 50/60 Hz
Power consumption	AEP, UK, EE model : 113 watts E, EA, AUS, JE model : 120 watts
Dimensions	Approx. 255 × 175 × 270 mm (w/h/d) (8 7/8 × 6 9/10 × 10 3/4 inches) incl. projecting parts and controls
Mass	Approx.4.6kg (10 lb 2 oz)

Design and specifications subject to change without notice.

Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Note

EE : East European
EA : Saudi Arabia
AUS : Australian
JE : Tourist

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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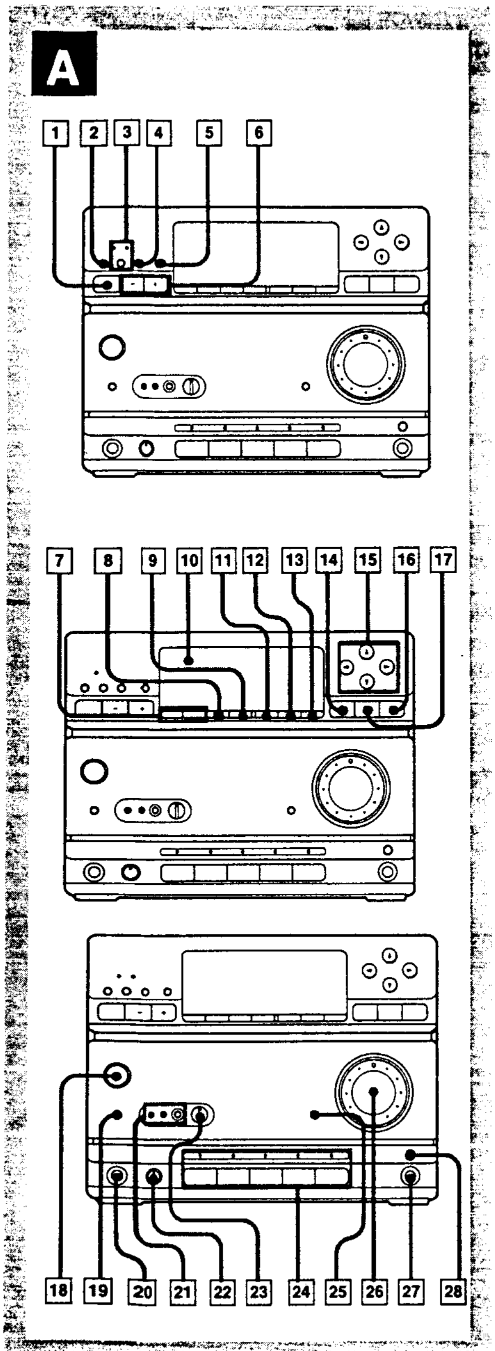
SECTION 1
GENERAL

This section is extracted from instruction manual.


A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
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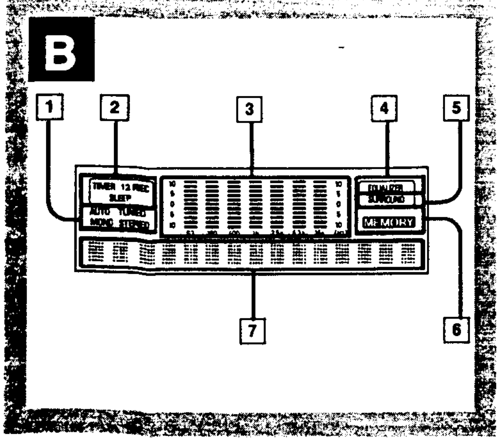
26
27
28


B
1
2
3
4
5
TIMER 1 2 REC
SLEEP
AUTO TUNED
MONO STEREO
EQUALIZER
SURROUND
MEMORY
7
6

Parts Identification

Tuner/Amplifier A

Tuner Section

1 BAND selector
2 MEMORY button
3 MODE button and PRESET/TUNING indicators
4 STEREO/MONO button
5 DISPLAY button
6 –/+ button

Equalizer Section

7 CLOCK SET TIMER 1, 2 buttons
8 TIMER REC button
9 SLEEP timer button
10 Display window
11 EQ button
12 SURROUND button
13 NEXT/MEMORY button
14 MUSIC button
15 CURSOR CONTROL buttons
16 DIRECT button
17 T.P.O. button

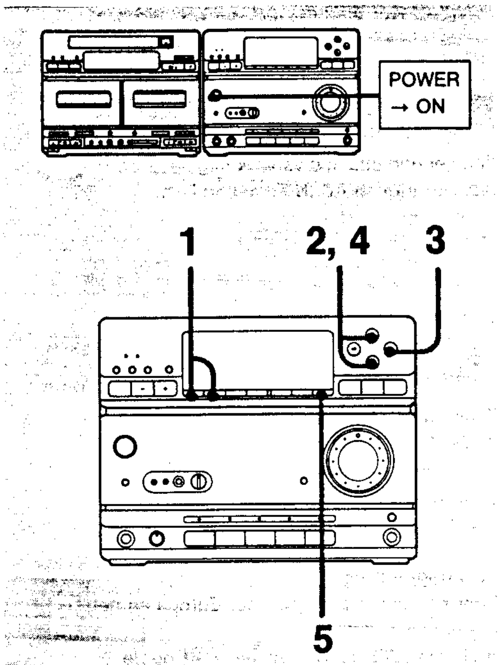
Amplifier Section

18 SYSTEM POWER button
19 KARAOKE PON button and indicator
20 MIC (microphone) MIX input jack (minijack)
21 DYNAMIC BASS SYSTEM FREQUENCY button and indicators
22 MIC (microphone) LEVEL control
23 LEVEL (Dynamic Bass System level) control
24 FUNCTION selector and indicators
25 MUTING button
26 VOLUME control and indicator
27 HEADPHONES jack (stereo minijack)
28 Remote control sensor

Display Window B

1 Tuner indications
2 Timer indications
3 Equalizer/spectrum analyzer/surround display
4 EQUALIZER on/off indication
5 SURROUND on/off indication
6 MEMORY indication
7 Tuner/Sound Field Coordinator display

Clock Setting


POWER
→ ON
1
2, 4
3
5

Setting the Clock

Example: Set to 9:25.

1. **Press TIMER 1 and 2 at the same time.**
2. **Set the hour by pressing CURSOR CONTROL △ or ▽.**
3. **Press CURSOR CONTROL ▷.**
4. **Set the minute by pressing CURSOR CONTROL △ or ▽.**
5. **Press NEXT/MEMORY.**
   The clock starts operating.

Information on the time

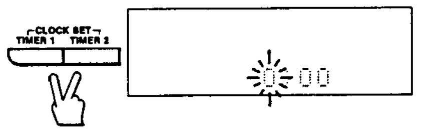
The European and U.K. model shows the time in a 24-hour cycle.
The model for other countries shows the time in a 12-hour cycle.

AM 12:00 = midnight
PM 12:00 = noon

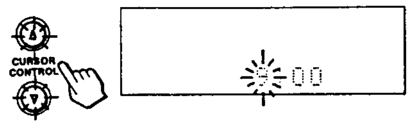
When a power interruption occurs

The clock and the timer settings are all erased, and "0:00" ("AM 12:00") will flash on the display.

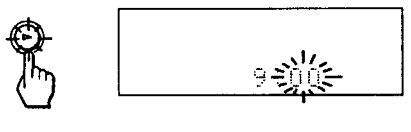
1


CLOCK SET
TIMER 1
TIMER 2
0 00

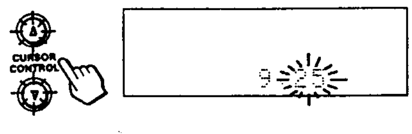
2


CURSOR CONTROL
9 00

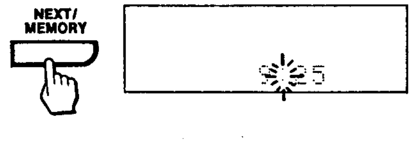
3



4


CURSOR CONTROL
9 25

5


NEXT/
MEMORY
9 25

SECTION 2
ADJUSTMENTS

2-1. TEST MODE

1. Checking of the keys, FL tubes and the equalizer and resetting of the memory

The test mode is activated by the following methods. The test mode is reset by pressing the SYSTEM POWER key.

(1) Checking of the keys and FL tubes
This mode is actuated by pressing the CURSOL CONTROL ▷ key while simultaneously pressing the DISPLAY and VIDEO keys with power on condition.

All FL tubes light up.
↓
With a key other than DISPLAY, VIDEO or CURSOL CONTROL ▷ key pressed, indication peculiar to each key is displayed.
↓
Press the SYSTEM POWER key.

The test is completed.

(2) Checking of the timer and resetting of the memory
This mode is actuated by pressing the TIMER2 key while simultaneously pressing the DISPLAY and VIDEO keys with power off condition.

Note: Once it is activated, data in the preset memory is erased while returning to the initial state. Before beginning the test, write out preset contents and, after completion of testing, be sure to set the memory to the state previous to repairing.

(3) Checking of the equalizer (keys)
This mode is actuated by pressing the TIMER REC key while simultaneously pressing the DISPLAY and VIDEO keys with power on condition.
The indication tube displays "EQUALIZER CHECK" while waiting for keying-in.
You can check the equalizer by pressing the following keys.

CURSOL CONTROL △ : Equalizer indication lights the ALL MAX. position.
DIRECT : Equalizer indication lights the ALL FLAT position.
CURSOL CONTROL ▽ : Equalizer indication lights the ALL MIN. position.

(4) Forced cold start
While pressing the SYSTEM POWER key with the power cord disconnected, connect the power cord. Thus, the internal RAM and the non-volatile memory are reset.

Note: Thus, preset data in the memory is erased while returning to the initial state. Before beginning the test, write out preset contents of the memory and, after completion of testing, be sure to set the memory to the state before repairing.

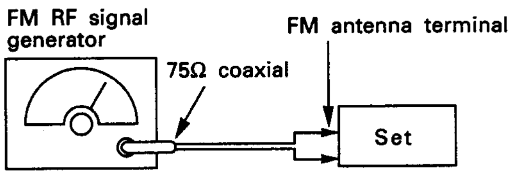
2-2. TUNER SECTION ADJUSTMENTS

- Abbreviations
  EE : East European JE : Tourist
  AUS : Australian
  EA : Saudi Arabia

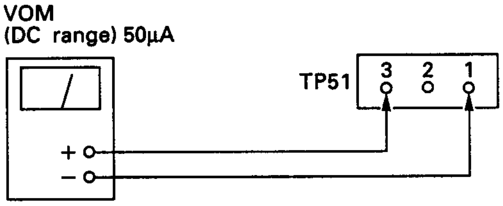
FM SECTION

Note : The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.

Setting :


FM RF signal generator
FM antenna terminal
75Ω coaxial
Set

Carrier frequency : 98MHz
Modulation : 1kHz, 40kHz deviation (AEP, UK, EE model)
1kHz, 75kHz deviation (E, AUS, EA, JE model)
Output level : 1mV (60dBμ)


VOM
(DC range) 50μA
TP51
3
2
1
+
−

FM NULL ADJUSTMENT

BAND switch : FM

Procedure :

1. Supply a 1mV (60dBμ) 98MHz signal from the antenna terminal.
2. Tune the set to 98MHz.
3. Adjust IFT51 for 0V reading on the VOM.

Adjustment Location : main board.

FM Tuning Level Adjustment

BAND switch: FM

Procedure:

1. Supply a 15.8μV (24dBμ) 98MHz signal from the antenna terminal.
2. Tune the set to 98MHz.
3. Adjust RV52 so that the TUNED light up.
4. Confirm that the TUNED light off with FM RF SSG output level set at −3dB.

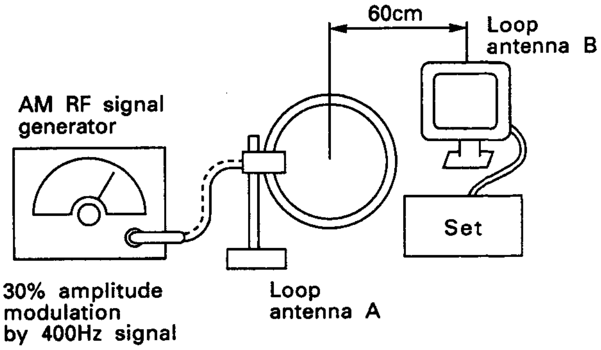
Adjustment Location : main board.

AM SECTION

AM Tuning Level Adjustment

BAND switch : AM (MW)

Setting :


60cm
Loop antenna B
AM RF signal generator
Set
30% amplitude modulation by 400Hz signal
Loop antenna A

Procedure:

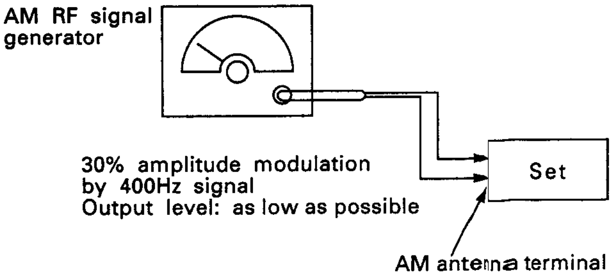
1. Set loop antenna A so that the loop antenna B input level becomes 281.8μV (49dBμ).
2. Tune the set to 999kHz. (9k step mode) (10k step mode : 1,000kHz).
3. Adjust the RV51 so that the TUNED light up.
4. Confirm that the TUNED light off with AM RF SG output level set at −3dB.

Adjustment Location : main board.

SW Tracking Adjustment (E, EA, AUS, JE model)

BAND switch : SW

Setting :


AM RF signal generator
30% amplitude modulation by 400Hz signal
Output level: as low as possible
Set
AM antenna terminal

Adjust for maximum reading on VTVM.	
17MHz	CV1
7MHz	T1

Adjustment Location : main board.

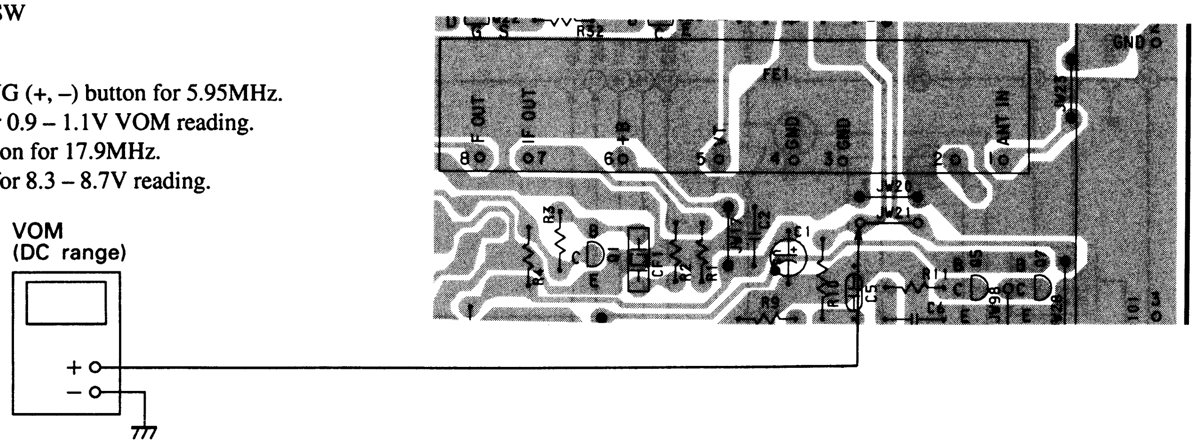
SW OSC Voltage Adjustment (E, EA, AUS, JE model)

BAND switch: SW

Procedure:

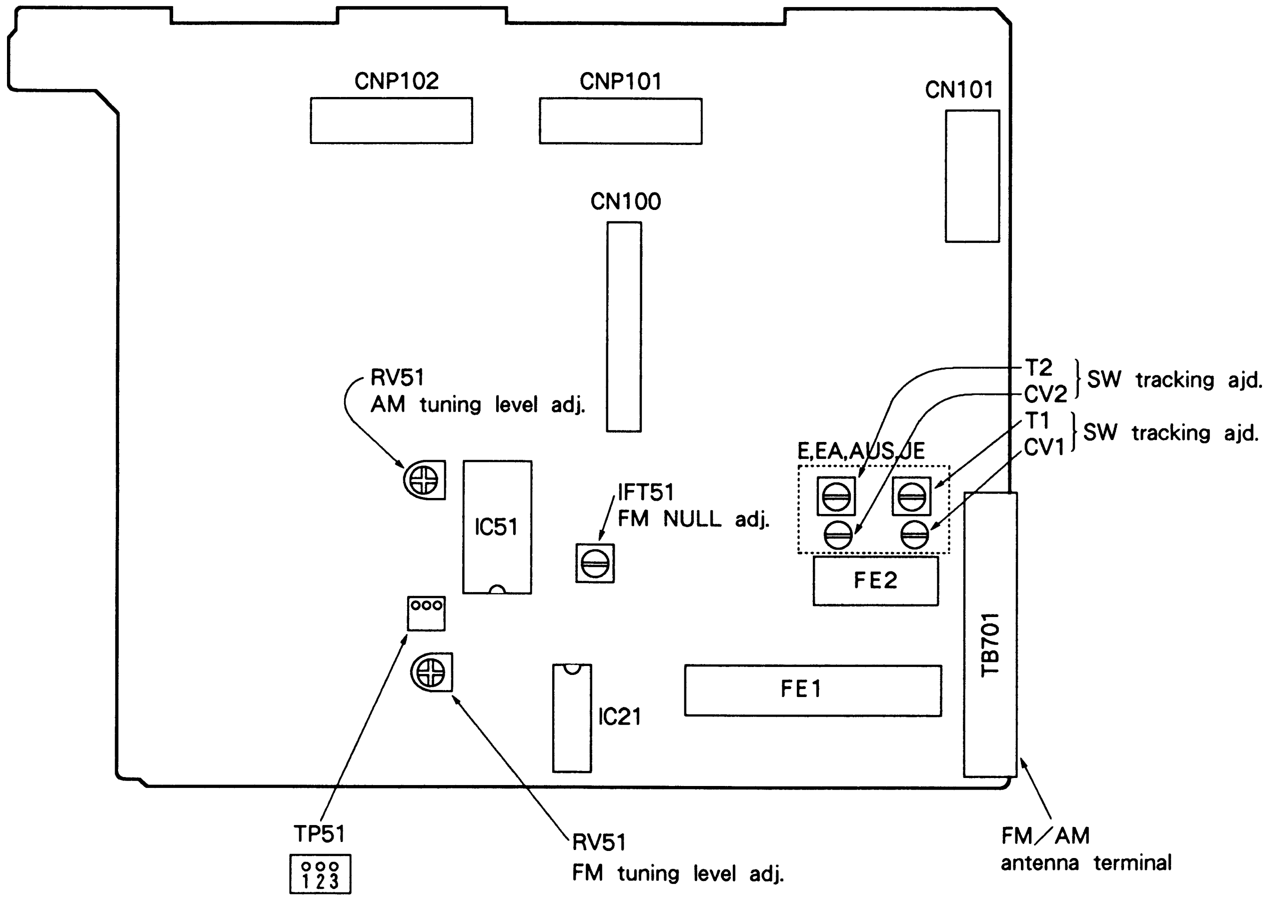
1. Press TUNING (+, –) button for 5.95MHz.
   Adjust T2 for 0.9 – 1.1V VOM reading.
2. Press the button for 17.9MHz.
   Adjust CV2 for 8.3 – 8.7V reading.

[main board] – conductor side –


VOM
(DC range)
+
–
IF OUT
FE1
GND
ANT IN
R32
L20
L21
C5

Adjustment Location : main board.

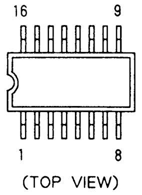
[main board] – component side –


CNP102
CNP101
CN101
CN100
RV51
AM tuning level adj.
IC51
IFT51
FM NULL adj.
E,EA,AUS,JE
T2
CV2
SW tracking ajd.
T1
CV1
SW tracking ajd.
FE2
TB701
FE1
IC21
TP51
123
RV51
FM tuning level adj.
FM/AM
antenna terminal

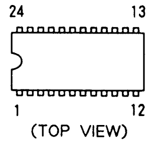
SECTION 3
DIAGRAMS

3-1. SEMICONDUCTOR LEAD LAYOUTS

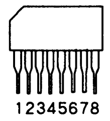
CD4052BCM


16 9
1 8
(TOP VIEW)

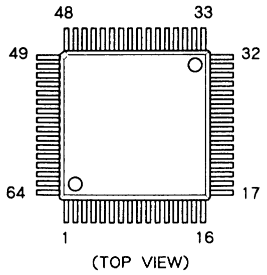
LC7218


24 13
1 12
(TOP VIEW)

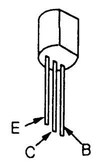
M5230L-A
µPC1237HA



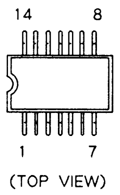
µPD78012-M10


48 33
49 32
64 17
1 16
(TOP VIEW)

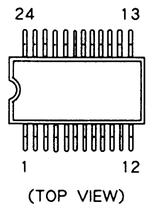
2SB1116A-L
2SC1841-PAFAEA
2SC3112-B
2SD1616A-K



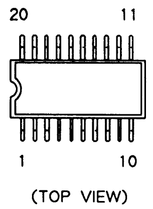
CD4066BCM
SN74HCU04ANS


14 8
1 7
(TOP VIEW)

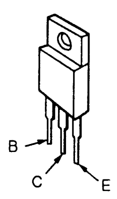
M66311FP


24 13
1 12
(TOP VIEW)

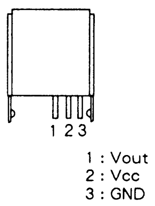
M5289FP-71NC


20 11
1 10
(TOP VIEW)

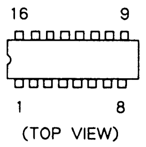
2SB1094-LK
2SD2012



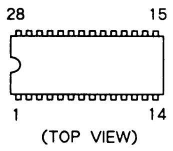
GP1U50XB


1 2 3
1 : Vout
2 : Vcc
3 : GND

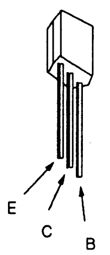
MC14051BCP
XR1091DCP


16 9
1 8
(TOP VIEW)

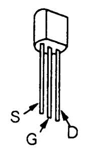
NJU7305L


28 15
1 14
(TOP VIEW)

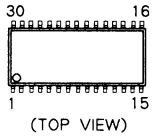
DTA114ES
DTA124ES
DTC114ES
DTC124ES
DTC144ES
2SC2603-EF
2SC2724-CD
2SC3899



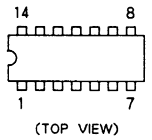
2SK246-GR
2SK246-GR3



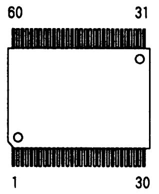
LA1851N


30 16
1 15
(TOP VIEW)

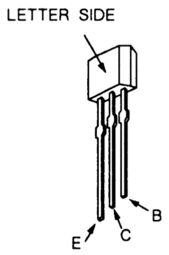
MC4066BCP


14 8
1 7
(TOP VIEW)

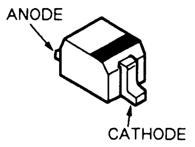
SN755723FT



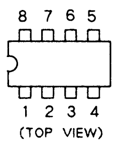
2SA1175-HFE
2SC3623A-LK


LETTER SIDE
E
C
B

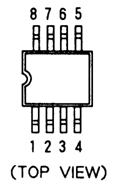
DTZ5.6B
1SS352


ANODE
CATHODE

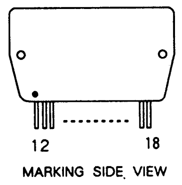
LB1639
M5218AP
X24C01P


8 7 6 5
1 2 3 4
(TOP VIEW)

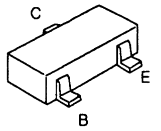
M5218AFP


8 7 6 5
1 2 3 4
(TOP VIEW)

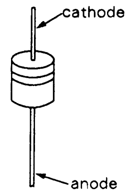
STK4142MK2
STK4172MK2K


12 18
MARKING SIDE VIEW

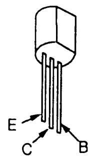
DTA144EK
2SA1342
2SC3396
2SC3859
2SC4154-F
2SC4398



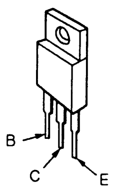
HZS6B1L
HZS30-3L
UZL-12L3
11ES2


cathode
anode

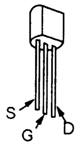
2SB1116A-L
2SC1841-PAFAEA
2SC3112-B
2SD1616A-K



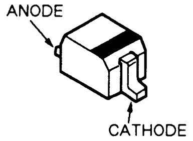
2SB1094-LK
2SD2012



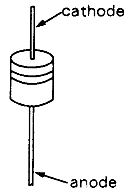
2SK246-GR
2SK246-GR3



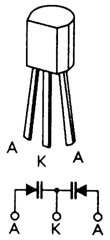
DTZ5.6B
1SS352


ANODE
CATHODE

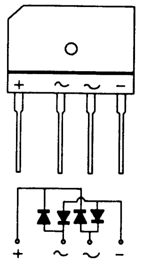
HZS6B1L
HZS30-3L
UZL-12L3
11ES2


cathode
anode

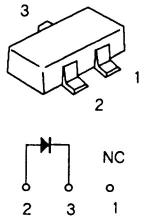
KV1560N



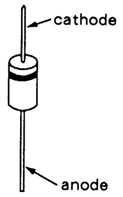
RBV602-01



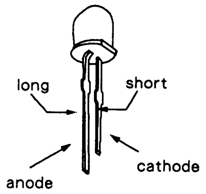
RD5.6M-B2



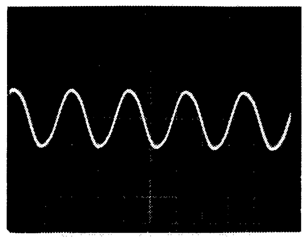
1N4148M


cathode
anode

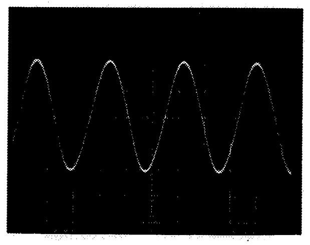
SEL2210S-CD


long
short
anode
cathode

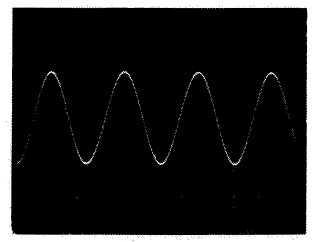
3-2. WAVEFORMS



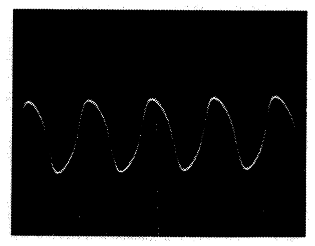
❶ IC51 ⑬pin (VCO)
2.3Vp-p, 2.2μsec



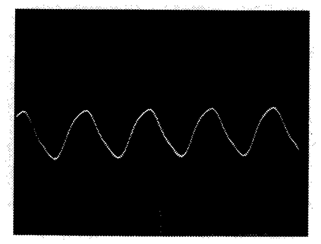
❷ IC21 ㉔pin (XOUT)
4.2Vp-p,145nsec



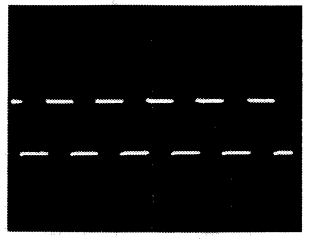
❸ IC21 ①pin (XIN)
2.6Vp-p, 145nsec



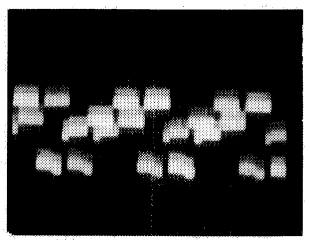
❹ IC301 ㊶pin (X2)
5.6Vp-p, 0.12μsec



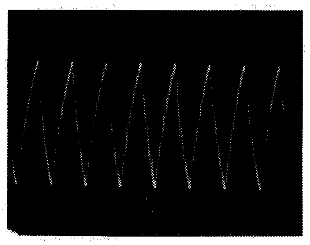
❺ IC301 ㊷pin (X1)
3.8Vp-p, 0.12μsec



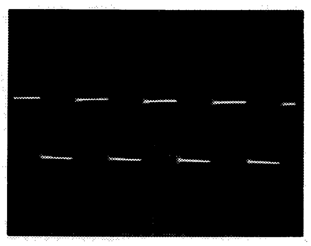
❻ IC306 ⑨, ⑩pin,
IC301 (63), (62)pin
4Vp-p, 4msec



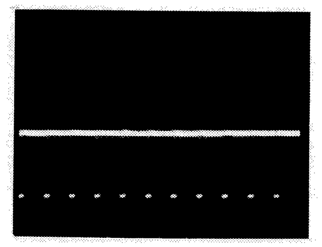
❼ IC305 ①-⑦pin
1.9Vp-p, 7.8msec



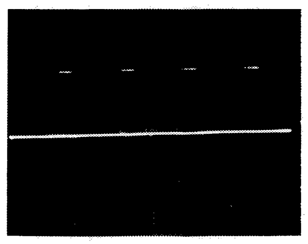
❽ IC305 ⑬pin (CLC)
4.8Vp-p, 2.8μsec



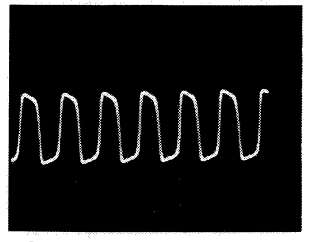
❾ IC305 ⑭pin (CLR)
1.2Vp-p, 3.6μsec



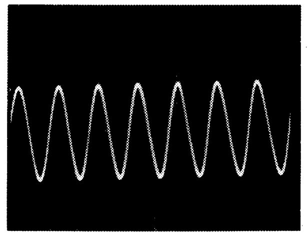
❿ IC301 (59)pin (CLOCK)
5Vp-p, 0.48msec



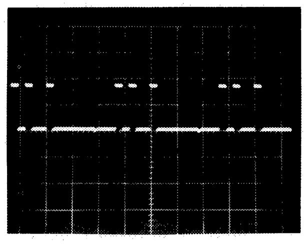
⓫ IC301 (58)pin (DATA)
4.8Vp-p, 0.48msec



⓬ IC301 ㊹pin (XT2)
5.6Vp-p, 50μsec

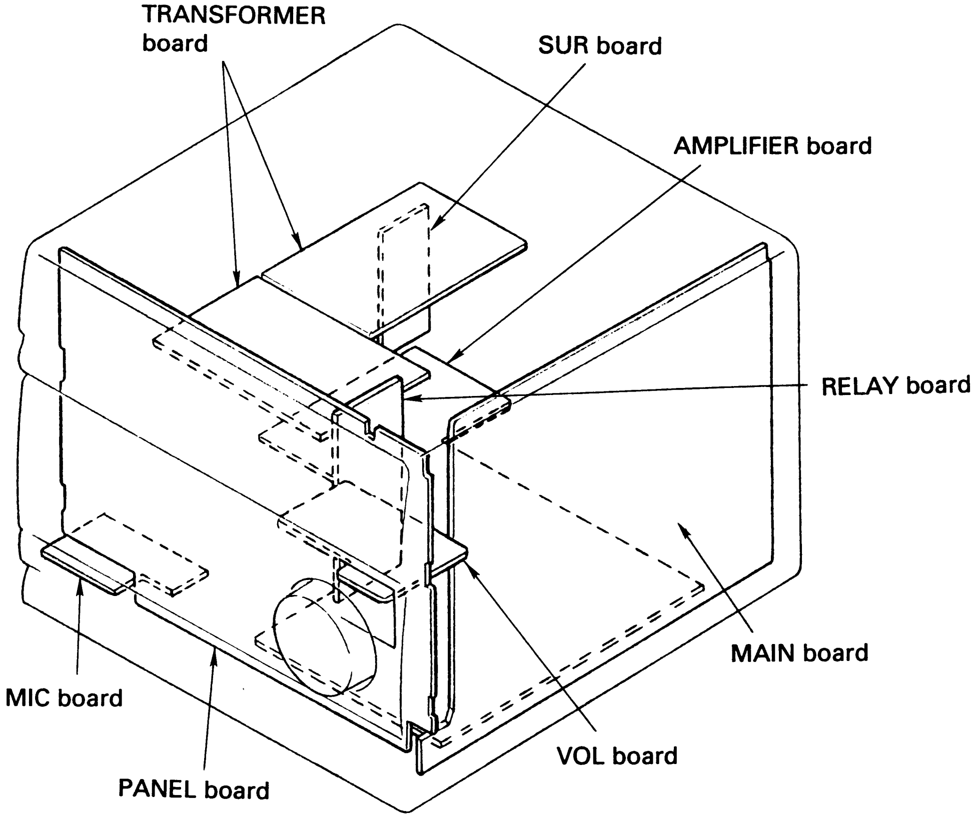


⓭ IC301 ㊺pin (XT1)
3.8Vp-p, 50μsec



⓮ IC307 ㉜pin (DIN),
IC308 ㉙pin (DOUT)
36Vp-p, 8msec

3-3. CIRCUIT BOARDS LOCATION


TRANSFORMER board
SUR board
AMPLIFIER board
RELAY board
MAIN board
MIC board
VOL board
PANEL board

3-4. PRINTED WIRING BOARDS
(MAIN SECTION)
– AEP, UK, East European MODEL –

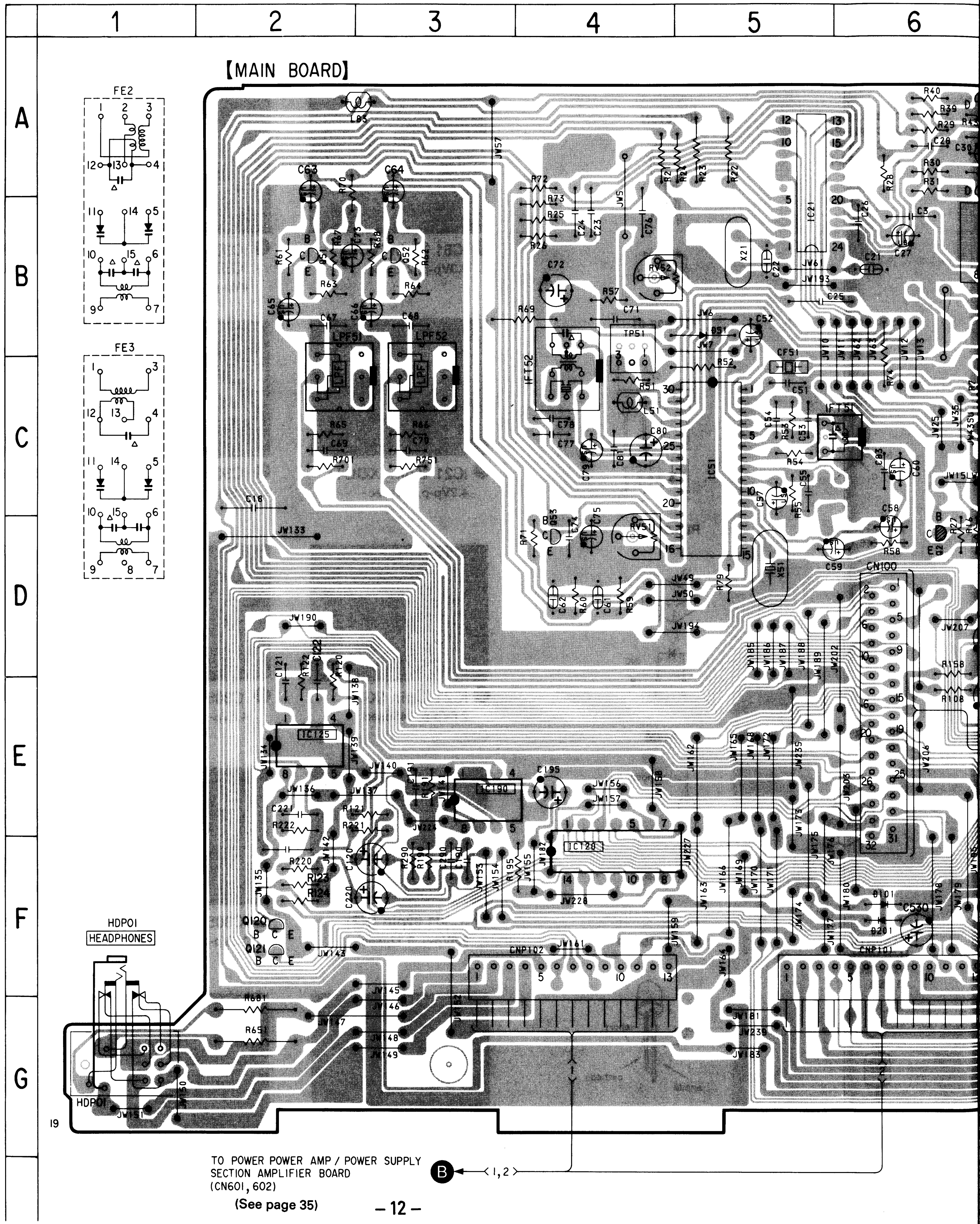
- See page 8 for semiconductor lead layouts and 10 for circuit boards location.

● SEMICONDUCTOR LOCATION
(MAIN SECTION)

Ref. No.	Location
D51	B-5
D101	F-6
D201	F-6
IC21	A-5
IC51	C-5
IC101	D-7
IC103	F-8
IC120	F-4
IC125	E-2
IC153	F-7
IC190	E-3
Q1	B-7
Q2	D-6
Q3	C-7
Q4	C-7
Q5	B-8
Q6	C-7
Q7	B-9
Q8	C-8
Q22	A-6
Q23	A-7
Q24	A-6
Q25	A-7
Q51	B-2
Q52	B-3
Q53	D-4
Q120	F-2
Q121	F-2

Notes on printed wiring boards:

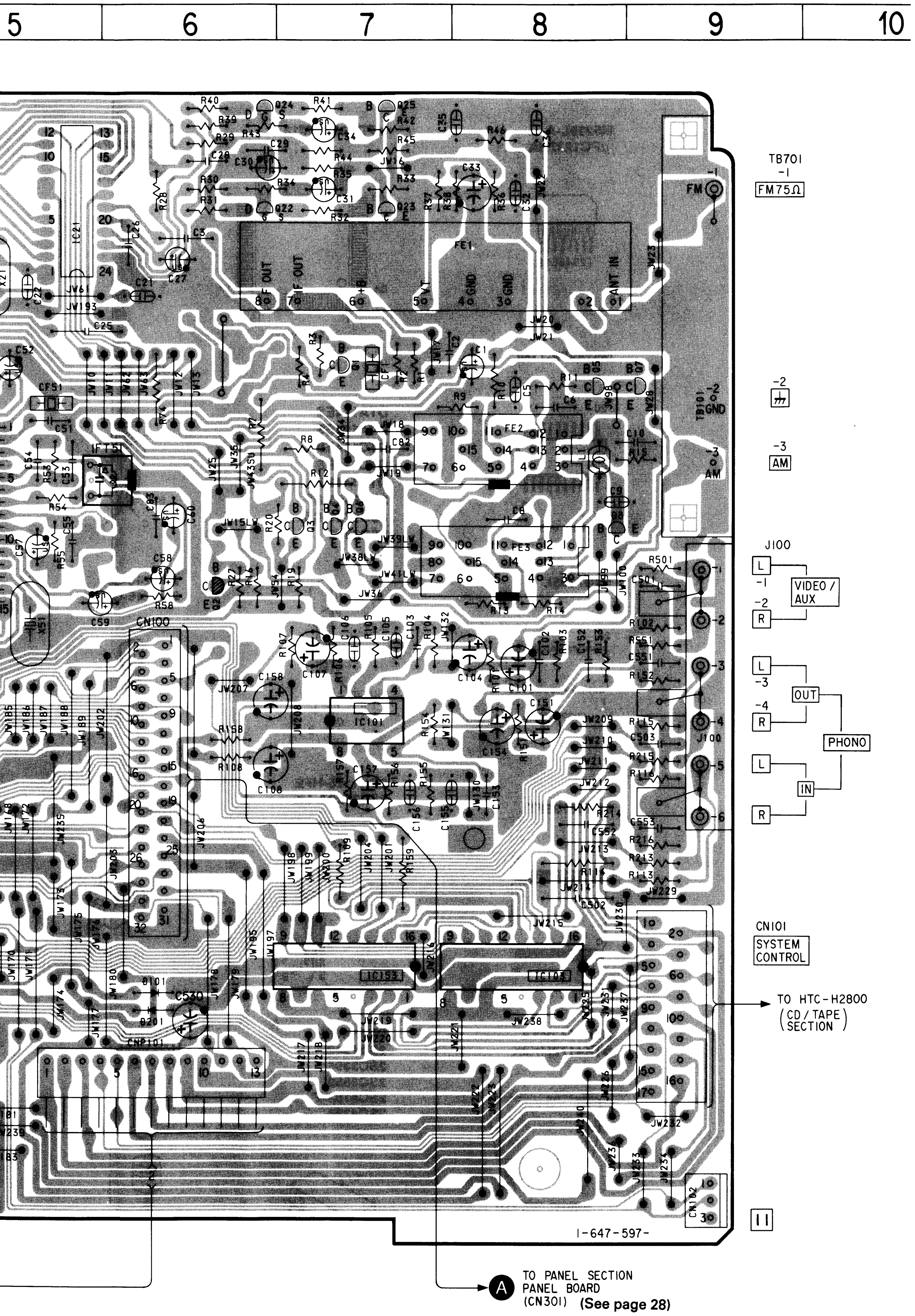
- •○—— : Indicated a lead wire mounted on the component side
- • ■ : Parts mounted on the conductor side
- • [ ]- : Indicates side identified with part number
- • ▨ : Pattern from the side which enables seeing
- • EE : East European Model



1
2
3
4
5
6
A
B
C
D
E
F
G
【MAIN BOARD】
FE2
FE3
HDP01
HEADPHONES
IC21
IC51
IC125
IC190
IC120
LPF51
LPF52
CN100
CNP101
CNP102
RV51
RV52
X21
CF51
TP51
IFT51
IFT52
Q120
Q121
D101
D201
19

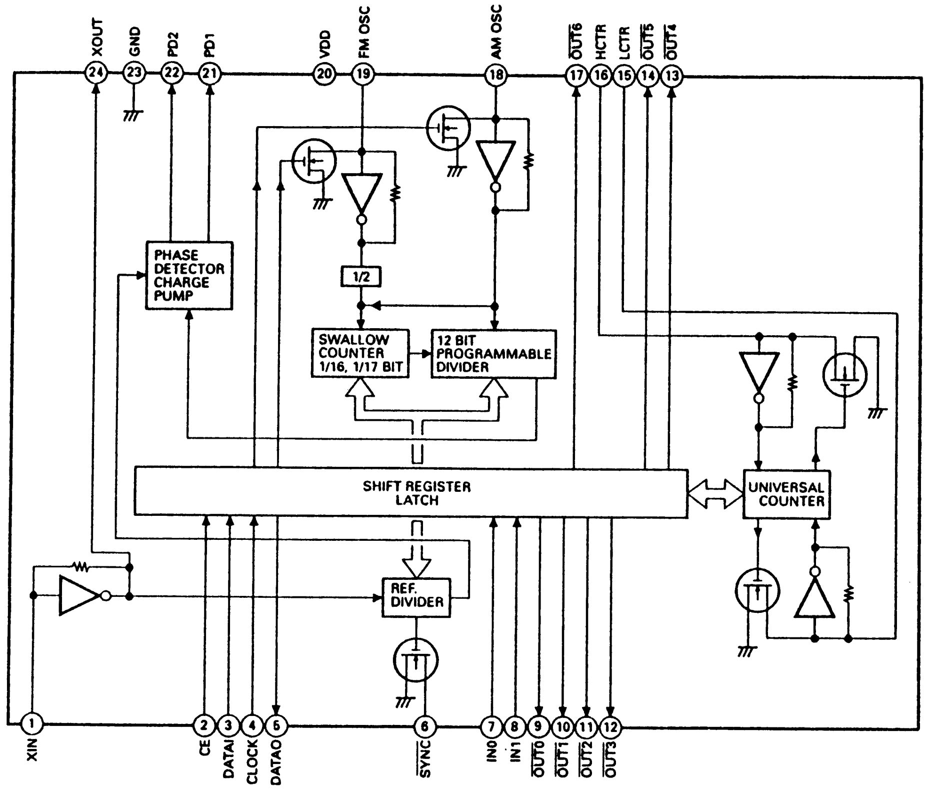
TO POWER POWER AMP / POWER SUPPLY SECTION AMPLIFIER BOARD (CN601, 602) Ⓑ ◄ 〈1, 2〉

(See page 35)

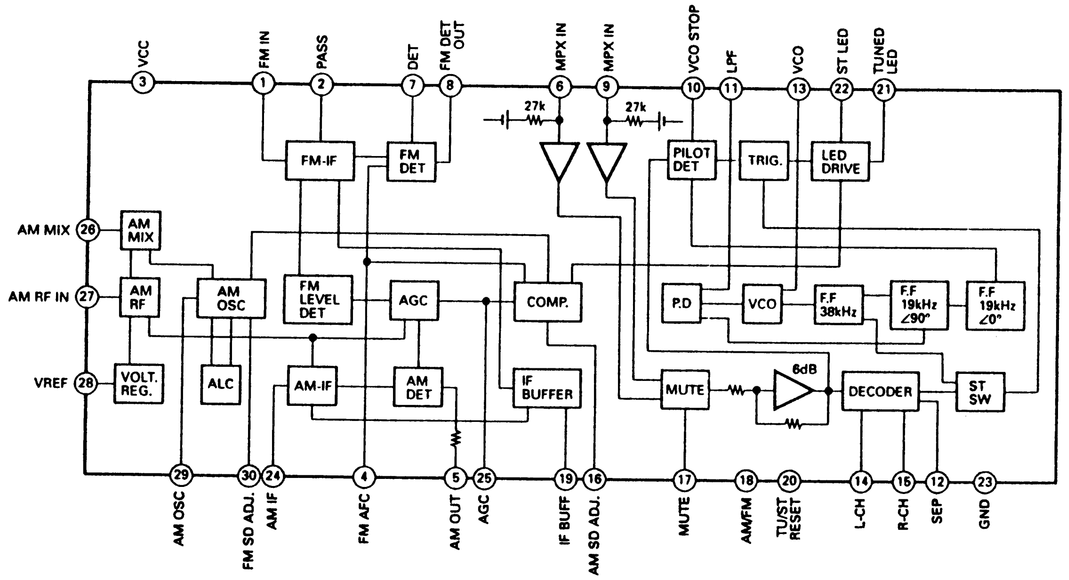

5
6
7
8
9
10
TB701
-1
FM75Ω
-2
-3
AM
J100
L
-1
-2
R
VIDEO / AUX
L
-3
-4
R
OUT
PHONO
L
IN
R
CN101
SYSTEM CONTROL
TO HTC-H2800 (CD / TAPE SECTION)
11
1-647-597-
A TO PANEL SECTION PANEL BOARD (CN301) (See page 28)
IC21
IC101
IC153
IC103
FE1
FE2
FE3
CN100
CNP101
TB101
GND

3-5. IC BLOCK DIAGRAMS (MAIN SECTION)

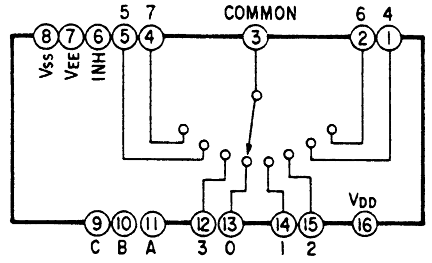
IC21 LC7218


XOUT
GND
PD2
PD1
VDD
FM OSC
AM OSC
OUT6
HCTR
LCTR
OUT5
OUT4
PHASE DETECTOR CHARGE PUMP
1/2
SWALLOW COUNTER 1/16, 1/17 BIT
12 BIT PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
REF. DIVIDER
XIN
CE
DATAI
CLOCK
DATAO
SYNC
IN0
IN1
OUT0
OUT1
OUT2
OUT3

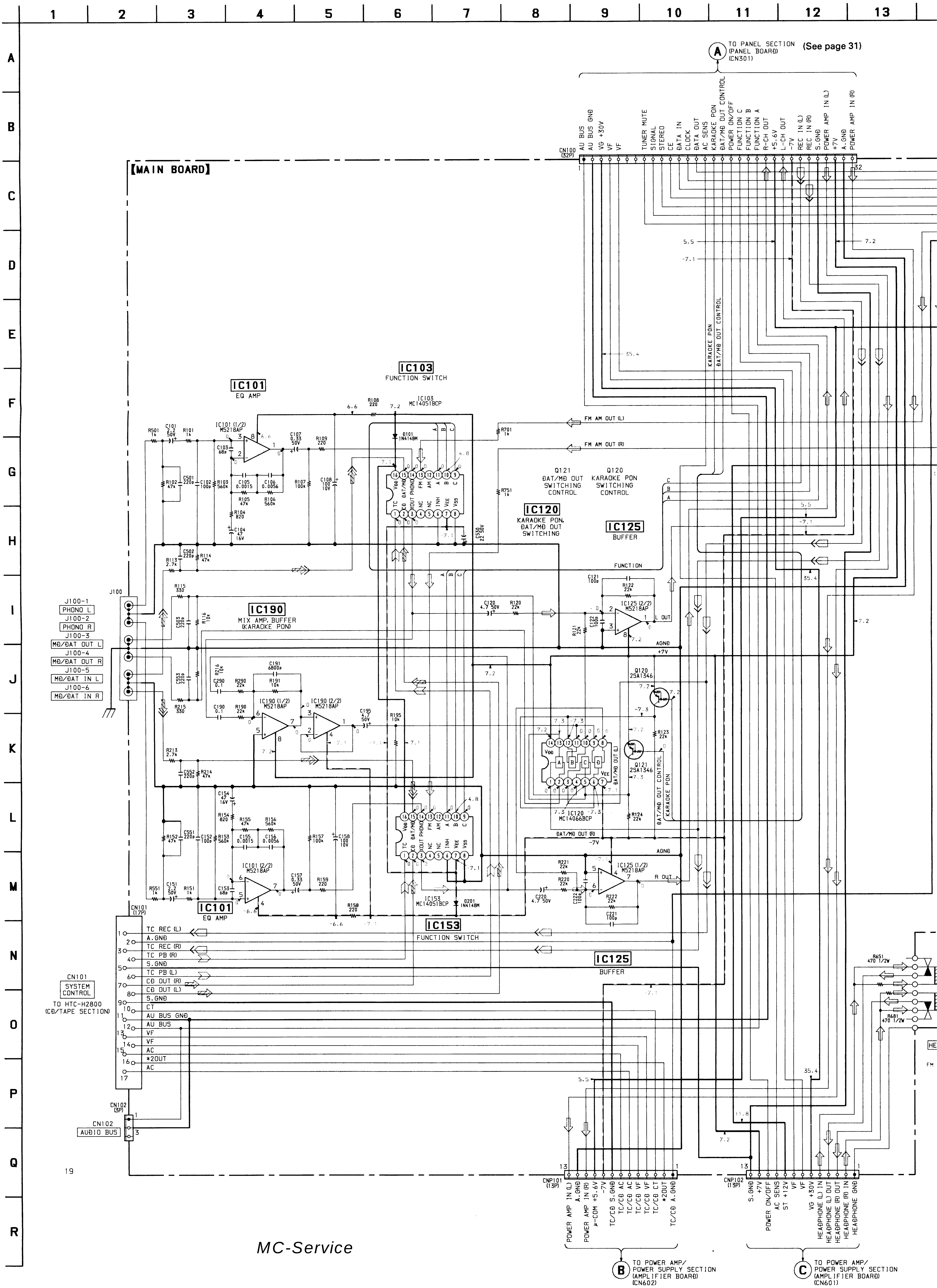
IC51 LA1851N


VCC
FM IN
PASS
DET
FM DET OUT
MPX IN
MPX IN
VCO STOP
LPF
VCO
ST LED
TUNED LED
27k
27k
FM-IF
FM DET
PILOT DET
TRIG.
LED DRIVE
AM MIX
AM RF IN
VREF
AM MIX
AM RF
AM OSC
FM LEVEL DET
AGC
COMP.
P.D
VCO
F.F 38kHz
F.F 19kHz ∠90°
F.F 19kHz ∠0°
VOLT. REG.
ALC
AM-IF
AM DET
IF BUFFER
MUTE
6dB
DECODER
ST SW
AM OSC
FM SD ADJ.
AM IF
FM AFC
AM OUT
AGC
IF BUFF
AM SD ADJ.
MUTE
AM/FM
TU/ST RESET
L-CH
R-CH
SEP
GND

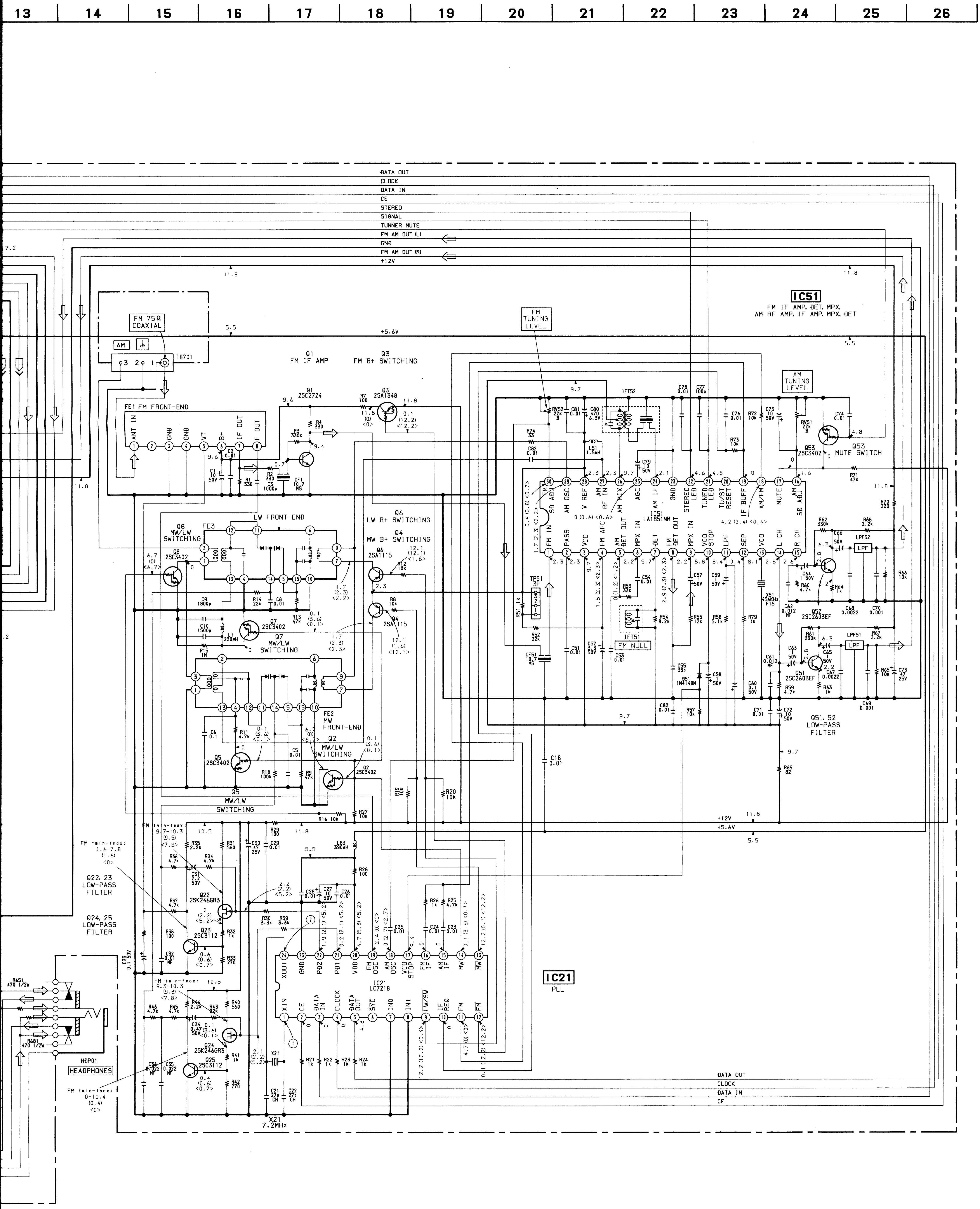
IC103, 153 MC14051BCP

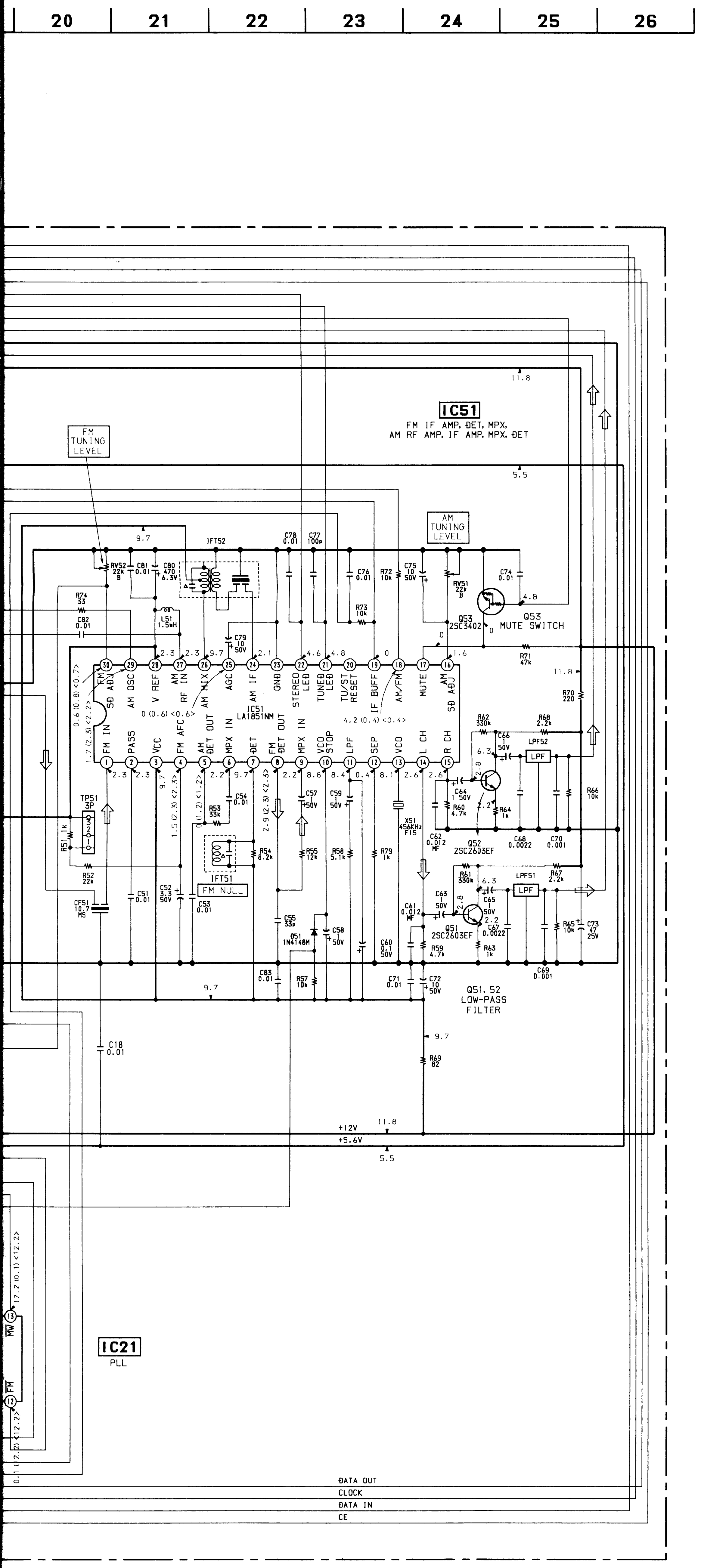

5 7
COMMON
6 4
VSS
VEE
INH
VDD
C B A
3 0
1 2

3-6. SCHEMATIC DIAGRAM (MAIN SECTION) – AEP, UK, East European MODEL – • See page 9 for waveforms and 14 for IC block diagram.



1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
A TO PANEL SECTION (PANEL BOARD) (CN301) (See page 31)
CN100 (32P)
AU BUS
AU BUS GND
VG +30V
VF
VF
TUNER MUTE
SIGNAL
STEREO
CE
DATA IN
CLOCK
DATA OUT
AC SENS
KARAOKE PON
DAT/MD OUT CONTROL
POWER ON/OFF
FUNCTION C
FUNCTION B
FUNCTION A
R-CH OUT
+5.6V
L-CH OUT
-7V
REC IN (L)
REC IN (R)
S.GND
POWER AMP IN (L)
+7V
A.GND
POWER AMP IN (R)
[MAIN BOARD]
IC101 EQ AMP
IC103 FUNCTION SWITCH
IC103 MC14051BCP
IC101 (1/2) M5218AP
IC101 (2/2) M5218AP
IC190 MIX AMP, BUFFER (KARAOKE PON)
IC190 (1/2) M5218AP
IC190 (2/2) M5218AP
IC153 FUNCTION SWITCH
IC153 MC14051BCP
IC120 KARAOKE PON, DAT/MD OUT SWITCHING
IC120 MC14066BCP
IC125 BUFFER
IC125 (1/2) M5218AP
IC125 (2/2) M5218AP
Q121 DAT/MD OUT SWITCHING CONTROL
Q120 KARAOKE PON SWITCHING CONTROL
Q120 2SA1346
Q121 2SA1346
D101 1N4148M
D201 1N4148M
FM AM OUT (L)
FM AM OUT (R)
FUNCTION
L OUT
R OUT
AGND
+7V
-7V
DAT/MD OUT (R)
DAT/MD OUT (L)
KARAOKE PON
DAT/MD OUT CONTROL
J100
J100-1 PHONO L
J100-2 PHONO R
J100-3 MD/DAT OUT L
J100-4 MD/DAT OUT R
J100-5 MD/DAT IN L
J100-6 MD/DAT IN R
CN101 (17P)
CN101 SYSTEM CONTROL TO HTC-H2800 (CD/TAPE SECTION)
TC REC (L)
A.GND
TC REC (R)
TC PB (R)
S.GND
TC PB (L)
CD OUT (R)
CD OUT (L)
S.GND
CT
AU BUS GND
AU BUS
VF
VF
AC
*2OUT
AC
CN102 (3P)
CN102 AUDIO BUS
19
CNP101 (13P)
POWER AMP IN (L)
A.GND
POWER AMP IN (R)
μ-COM +5.6V
-7V
TC/CD S.GND
TC/CD AC
TC/CD AC
TC/CD VF
TC/CD VF
TC/CD CT
*2OUT
TC/CD A.GND
B TO POWER AMP/ POWER SUPPLY SECTION (AMPLIFIER BOARD) (CN602) (See page 37)
CNP102 (13P)
S.GND
+7V
POWER ON/OFF
AC SENS
ST +12V
VF
VF
VG +30V
HEADPHONE (L) IN
HEADPHONE (L) OUT
HEADPHONE (R) OUT
HEADPHONE (R) IN
HEADPHONE GND
C TO POWER AMP/ POWER SUPPLY SECTION (AMPLIFIER BOARD) (CN601) (See page 37)
R651 470 1/2W
R681 470 1/2W
5.5
-7.1
7.2
35.4
11.8


13
14
15
16
17
18
19
20
21
22
23
24
25
26
DATA OUT
CLOCK
DATA IN
CE
STEREO
SIGNAL
TUNNER MUTE
FM AM OUT (L)
GND
FM AM OUT (R)
+12V
+5.6V
FM 75Ω COAXIAL
AM
TB701
FE1 FM FRONT-END
ANT IN
GND
VT
B+
IF OUT
Q1 FM IF AMP
Q1 2SC2724
Q3 FM B+ SWITCHING
Q3 2SA1348
CF1 10.7 MS
LW FRONT-END
FE3
Q8 MW/LW SWITCHING
Q8 2SC3402
Q6 LW B+ SWITCHING
Q4 MW B+ SWITCHING
Q6 2SA1115
Q4 2SA1115
Q7 2SC3402
Q7 MW/LW SWITCHING
FE2 MW FRONT-END
Q2 MW/LW SWITCHING
Q2 2SC3402
Q5 2SC3402
Q5 MW/LW SWITCHING
FM TUNING LEVEL
AM TUNING LEVEL
IC51
FM IF AMP, DET, MPX,
AM RF AMP, IF AMP, MPX, DET
IC51 LA1851NM
FM SD ADJ
AM OSC
V REF
AM RF IN
AM MIX
AGC
AM IF
GND
STEREO LED
TUNED LED
TU/ST RESET
IF BUFF
AM/FM
MUTE
AM SD ADJ
FM IN
PASS
VCC
FM AFC
AM DET OUT
MPX IN
DET
FM DET OUT
MPX IN
VCO STOP
LPF
SEP
VCO
L CH
R CH
IFT52
IFT51
FM NULL
TP51 3P
CF51 10.7 MS
X51 456kHz F15
D51 1N4148M
RV52 22k B
RV51 22k B
Q53 2SC3402
Q53 MUTE SWITCH
LPF51
LPF52
Q51 2SC2603EF
Q52 2SC2603EF
Q51, 52 LOW-PASS FILTER
FM fmin-fmax: 1.6-7.8 (1.6) <0>
Q22, 23 LOW-PASS FILTER
Q24, 25 LOW-PASS FILTER
Q22 2SK246GR3
Q23 2SC3112
Q24 2SK246GR3
Q25 2SC3112
FM fmin-fmax: 9.7-10.3 (9.5) <7.9>
FM fmin-fmax: 9.3-10.3 (9.3) <7.8>
FM fmin-fmax: 0-10.4 (0.4) <0>
L83 390μH
IC21 LC7218
IC21 PLL
XOUT
GND
PD2
PD1
VDD
FM OSC
AM OSC
VCO STOP
FM IF
AM IF
MW
XIN
CE
DATA IN
CLOCK
DATA OUT
SYC
IN0
IN1
LW/SW
IF REQ
FM
X21 7.2MHz
HDP01 HEADPHONES
R651 470 1/2W
R681 470 1/2W
SECTION
OARD)
37)


20
21
22
23
24
25
26
IC51
FM IF AMP, DET, MPX,
AM RF AMP, IF AMP, MPX, DET
FM TUNING LEVEL
AM TUNING LEVEL
IC51 LA1851NM
IFT52
IFT51
FM NULL
Q53 2SC3402
Q53 MUTE SWITCH
Q52 2SC2603EF
Q51 2SC2603EF
Q51, 52 LOW-PASS FILTER
LPF52
LPF51
LPF
X51 456KHz
D51 1N4148M
TP51 3P
CF51 10.7 MS
RV52 22k B
RV51 22k B
FM IN
PASS
VCC
FM AFC
AM DET OUT
MPX IN
DET
FM DET OUT
MPX IN
VCO STOP
LPF
SEP
VCO
L CH
R CH
FM SD ADJ
AM OSC
V REF
AM RF IN
AM MIX
AGC
AM IF
GND
STEREO LED
TUNED LED
TU/ST RESET
IF BUFF
AM/FM
MUTE
AM SD ADJ
+12V
+5.6V
11.8
9.7
5.5
IC21
PLL
MW
FM
DATA OUT
CLOCK
DATA IN
CE

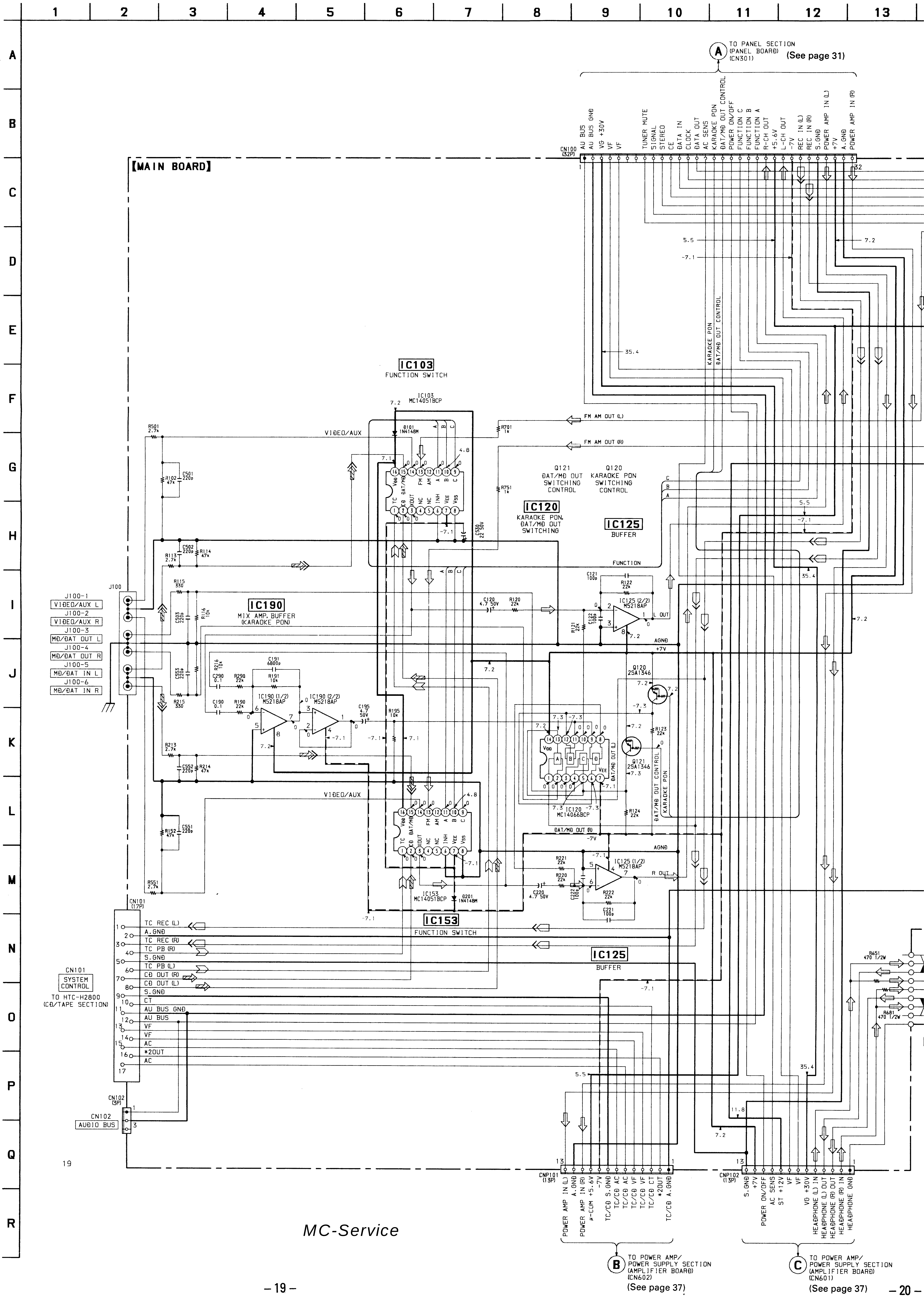
Notes on schematic diagram:

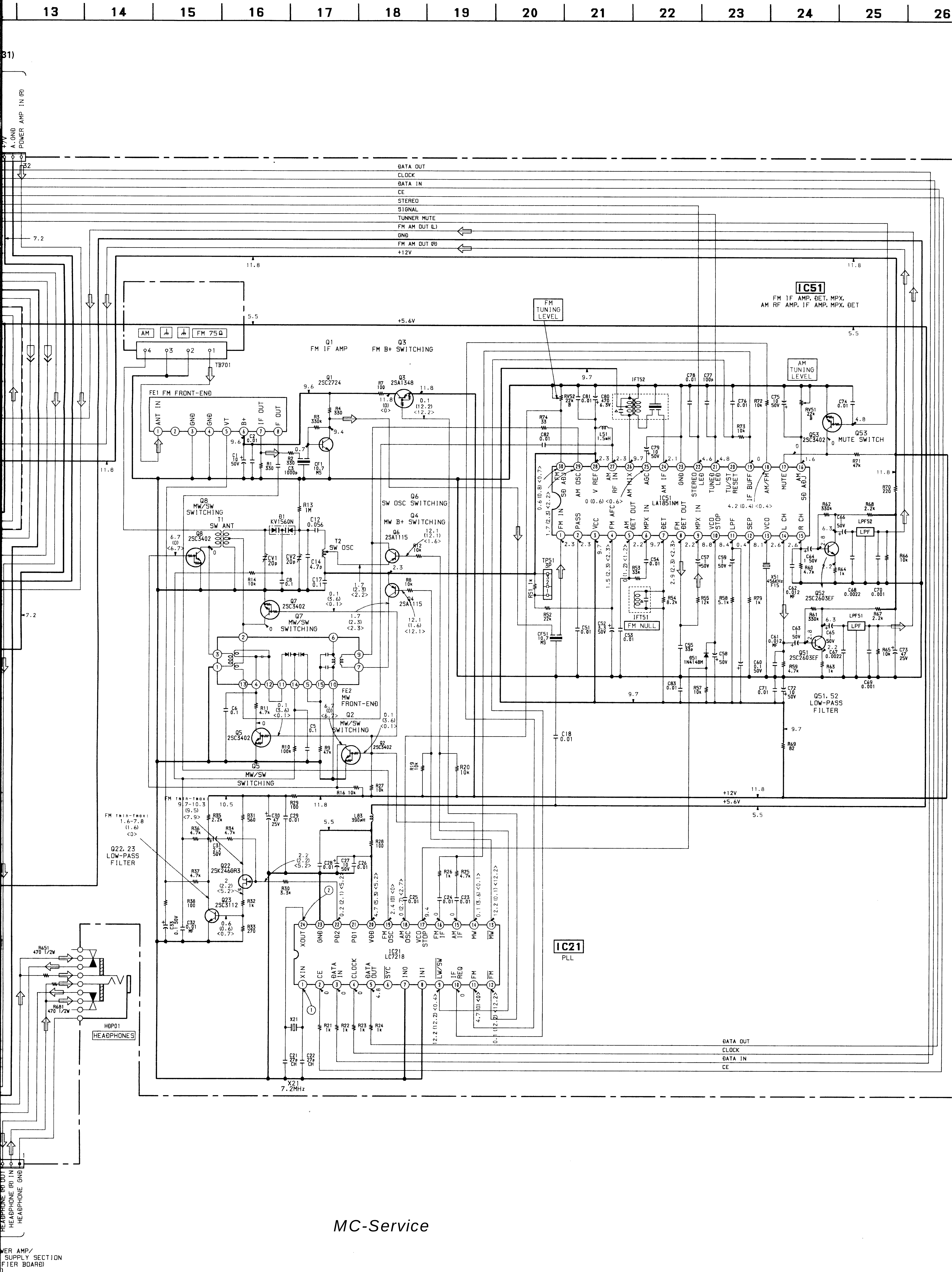
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : Internal component
- ━━━ : B+ Line
- ▪▪▪▪ : B– Line
- ☐ : Adjustment for repair
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : FM
  ( ) : MW
  < > : LW
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  ⇨ : FM
  ▨ : CD
  ▨≫ : MINI-DISC/DAT
  ≫ : PLAYBACK (From HTC-H2800 deck section of playback signal)
  ▭> : Record (To HTC-H2800 deck section of record signal.)

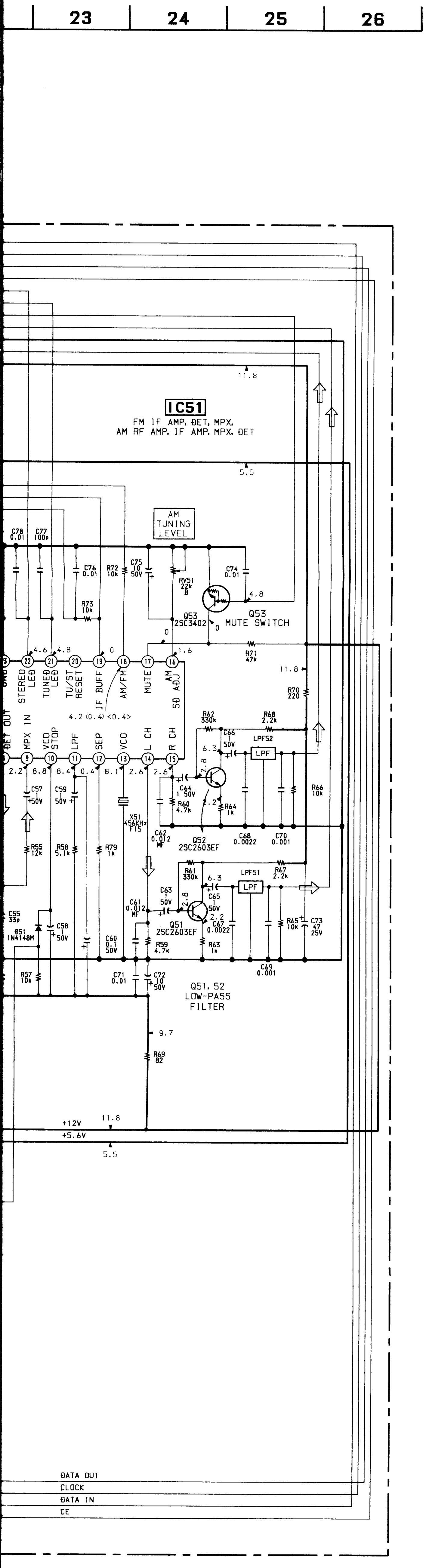
- EE : East European Model

3-7. SCHEMATIC DIAGRAM (MAIN SECTION) – E, Saudi Arabia, Australian, Tourist MODEL –

• See page 9 for waveforms and 14 for IC block diagram.


1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I J K L M N O P Q R
A TO PANEL SECTION (PANEL BOARD) (CN301) (See page 31)
CN100 (32P)
AU BUS
AU BUS GND
VG +30V
VF
VF
TUNER MUTE
SIGNAL
STEREO
CE
DATA IN
CLOCK
DATA OUT
AC SENS
KARAOKE PON
DAT/MD OUT CONTROL
POWER ON/OFF
FUNCTION C
FUNCTION B
FUNCTION A
R-CH OUT
+5.6V
L-CH OUT
-7V
REC IN (L)
REC IN (R)
S.GND
POWER AMP IN (L)
+7V
A.GND
POWER AMP IN (R)
[MAIN BOARD]
IC103
FUNCTION SWITCH
IC103 MC14051BCP
D101 1N4148M
IC120
KARAOKE PON, DAT/MD OUT SWITCHING
IC125
BUFFER
IC190
MIX AMP, BUFFER (KARAOKE PON)
IC190 (1/2) M5218AP
IC190 (2/2) M5218AP
IC125 (2/2) M5218AP
IC125 (1/2) M5218AP
IC120 MC14066BCP
IC153
FUNCTION SWITCH
IC153 MC14051BCP
D201 1N4148M
Q121 DAT/MD OUT SWITCHING CONTROL
Q120 KARAOKE PON SWITCHING CONTROL
Q120 2SA1346
Q121 2SA1346
VIDEO/AUX
FM AM OUT (L)
FM AM OUT (R)
FUNCTION
L OUT
R OUT
AGND
+7V
DAT/MD OUT (R)
-7V
KARAOKE PON
DAT/MD OUT CONTROL
J100
J100-1 VIDEO/AUX L
J100-2 VIDEO/AUX R
J100-3 MD/DAT OUT L
J100-4 MD/DAT OUT R
J100-5 MD/DAT IN L
J100-6 MD/DAT IN R
CN101 (17P)
1 TC REC (L)
2 A.GND
3 TC REC (R)
4 TC PB (R)
5 S.GND
6 TC PB (L)
7 CD OUT (R)
8 CD OUT (L)
9 S.GND
10 CT
11 AU BUS GND
12 AU BUS
13 VF
14 VF
15 AC
16 *2OUT
17 AC
CN101 SYSTEM CONTROL
TO HTC-H2800 (CD/TAPE SECTION)
CN102 (3P)
CN102 AUDIO BUS
R501 2.7k
R102 47k
C501 220p
C502 220p
R113 2.7k
R114 47k
R115 330
R116 10k
C503 220p
C553 220p
R215 330
R216 10k
C290 0.1
R290 22k
C191 6800p
R191 10k
C190 0.1
R190 22k
C195 4.7 50V
R195 10k
R213 2.7k
C552 220p
R214 47k
R152 47k
C551 220p
R551 2.7k
C530 22 50V
R701 1k
R751 1k
C121 100p
R122 22k
C120 4.7 50V
R120 22k
R121 22k
C122 100p
R123 22k
R124 22k
R221 22k
R220 22k
C220 4.7 50V
C222 100p
R222 22k
C221 100p
R651 470 1/2W
R681 470 1/2W
7.2
4.8
-7.1
7.3
-7.3
5.5
35.4
11.8
19
CNP101 (13P)
POWER AMP IN (L)
A.GND
POWER AMP IN (R)
μ-COM +5.6V
-7V
TC/CD S.GND
TC/CD AC
TC/CD AC
TC/CD VF
TC/CD VF
TC/CD CT
*2OUT
TC/CD A.GND
CNP102 (13P)
S.GND
+7V
POWER ON/OFF
AC SENS
ST +12V
VF
VF
VG +30V
HEADPHONE (L) IN
HEADPHONE (L) OUT
HEADPHONE (R) OUT
HEADPHONE (R) IN
HEADPHONE GND
B TO POWER AMP/POWER SUPPLY SECTION (AMPLIFIER BOARD) (CN602) (See page 37)
C TO POWER AMP/POWER SUPPLY SECTION (AMPLIFIER BOARD) (CN601) (See page 37)


13
14
15
16
17
18
19
20
21
22
23
24
25
26
31)
+7V
A.GND
POWER AMP IN (R)
DATA OUT
CLOCK
DATA IN
CE
STEREO
SIGNAL
TUNNER MUTE
FM AM OUT (L)
GND
FM AM OUT (R)
+12V
7.2
11.8
5.5
+5.6V
AM
FM 75Ω
TB701
FE1 FM FRONT-END
ANT IN
GND
VT
B+
IF OUT
F OUT
Q1
FM IF AMP
2SC2724
Q3
FM B+ SWITCHING
2SA1348
CF1
10.7
MS
Q8
MW/SW
SWITCHING
2SC3402
T1
SW ANT
D1
KV1560N
CV1
20p
CV2
20p
T2
SW OSC
Q6
SW OSC SWITCHING
Q4
MW B+ SWITCHING
2SA1115
Q7
2SC3402
MW/SW
SWITCHING
FE2
MW
FRONT-END
Q2
MW/SW
SWITCHING
Q5
2SC3402
MW/SW
SWITCHING
FM TUNING LEVEL
IC51
FM IF AMP, DET, MPX,
AM RF AMP, IF AMP, MPX, DET
IFT52
RV52
22k
B
L51
1.5mH
FM SD ADJ
AM OSC
V REF
AM RF IN
AM MIX
AGC
AM IF
GND
STEREO LED
TUNED LED
TU/ST RESET
IF BUFF
AM/FM
MUTE
AM SD ADJ
IC51
LA1851NM
FM IN
PASS
VCC
FM AFC
AM DET OUT
MPX IN
DET
FM DET OUT
MPX IN
VCO STOP
LPF
SEP
VCO
L CH
R CH
AM TUNING LEVEL
RV51
22k
B
Q53
2SC3402
MUTE SWITCH
TPS1
3P
CF51
10.7
MS
IFT51
FM NULL
D51
1N4148M
X51
456KHz
F15
Q52
2SC2603EF
Q51
2SC2603EF
LPF52
LPF51
LPF
Q51, 52
LOW-PASS
FILTER
+12V
+5.6V
FM fmin-fmax:
1.6-7.8
(1.6)
<0>
Q22, 23
LOW-PASS
FILTER
Q22
2SK246GR3
Q23
2SC3112
L83
390μH
XOUT
GND
PD2
PD1
VDD
FM OSC
AM OSC
VCO STOP
FM IF
AM IF
MW
MW
IC21
LC7218
XIN
CE
DATA IN
CLOCK
DATA OUT
SYC
IN0
IN1
LW/SW
IF REQ
FM
FM
IC21
PLL
X21
7.2MHz
R651
470 1/2W
R681
470 1/2W
HDP01
HEADPHONES
HEADPHONE (R) OUT
HEADPHONE (R) IN
HEADPHONE GND
WER AMP/
SUPPLY SECTION
FIER BOARD)
page 37)


23
24
25
26
IC51
FM IF AMP, DET, MPX,
AM RF AMP, IF AMP, MPX, DET
11.8
5.5
AM TUNING LEVEL
C78 0.01
C77 100p
C76 0.01
R72 10k
C75 10 50V
RV51 22k B
C74 0.01
R73 10k
Q53 2SC3402
Q53 MUTE SWITCH
4.8
R71 47k
11.8
R70 220
STEREO LED
TUNED LED
TU/ST RESET
IF BUFF
AM/FM
MUTE
AM SD ADJ
DET OUT
MPX IN
VCO STOP
LPF
SEP
VCO
L CH
R CH
4.6
4.8
0
1.6
4.2 (0.4) <0.4>
2.2
8.8
8.4
0.4
8.1
2.6
2.6
C57 50V
C59 1 50V
R55 12k
R58 5.1k
R79 1k
X51 456KHz F15
C62 0.012 MF
R62 330k
C66 1 50V
R68 2.2k
LPF52
LPF
6.3
2.8
C64 1 50V
R60 4.7k
2.2
R64 1k
Q52 2SC2603EF
C68 0.0022
C70 0.001
R66 10k
R61 330k
6.3
LPF51
LPF
R67 2.2k
C63 1 50V
2.8
C65 1 50V
2.2
C67 0.0022
Q51 2SC2603EF
C61 0.012 MF
R65 10k
C73 47 25V
C55 33p
D51 1N4148M
C58 1 50V
C60 0.1 50V
R59 4.7k
R63 1k
C69 0.001
R57 10k
C71 0.01
C72 10 50V
Q51, 52 LOW-PASS FILTER
9.7
R69 82
+12V
11.8
+5.6V
5.5
DATA OUT
CLOCK
DATA IN
CE

Notes on schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : Internal component
- ▬ : B + Line
- ▪▪▪▪ : B - Line
- ☐: Adjustment for repair
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : FM
  ( ) : MW
  < > : SW
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  ⇨ : FM
  ⇨ : CD
  ⇨: MINI-DISC/DAT
  ⇨ : PLAYBACK (From HTC-H2800 deck section of playback signal)
  ⇨: Record (To HTC-H2800 deck section of record signal.)

- EA : Saudi Arabia Model
- AUS : Australian Model
- JE : Tourist Model

3-8. PRINTED WIRING BOARDS

(MAIN SECTION)
— E, Saudi Arabia, Australian, —
Tourist MODEL

- See page 8 for semiconductor lead layouts and 10 for circuit boards location.

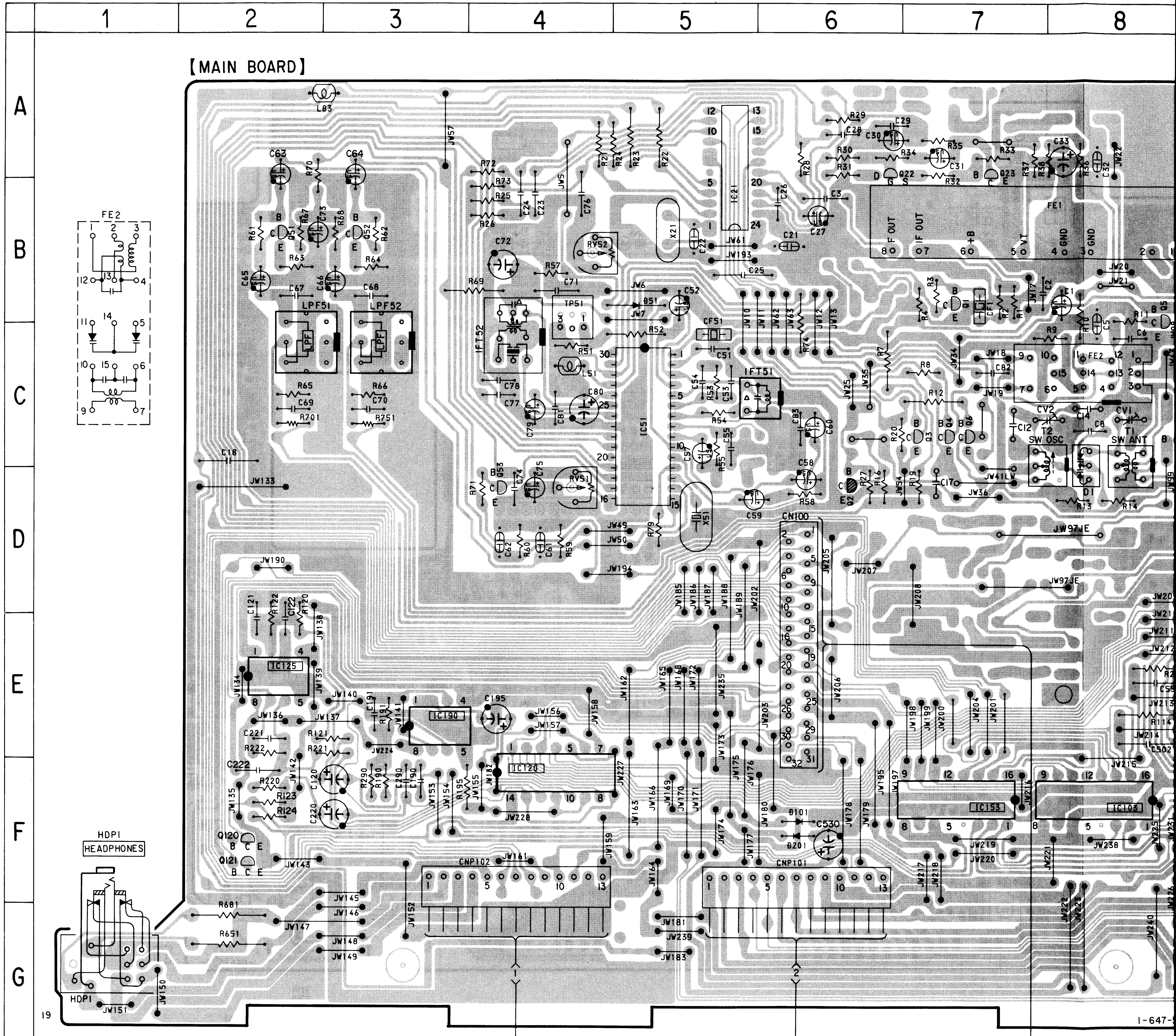
● SEMICONDUCTOR LOCATION

(MAIN SECTION)

Ref. No.	Location
D1	C-8
D51	B-5
D101	F-6
D201	F-6
IC21	A-5
IC51	C-5
IC103	F-8
IC120	F-4
IC125	E-2
IC153	F-7
IC190	E-3
Q1	B-7
Q2	D-6
Q3	C-7
Q4	C-7
Q5	B-8
Q6	C-7
Q7	B-8
Q8	C-8
Q22	A-6
Q23	A-7
Q51	B-2
Q52	B-3
Q53	D-4
Q120	F-2
Q121	F-2

Notes on printed wiring boards:

- ○——: Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- [¦]⊢ : Indicates side identified with part number
- ▨ : Pattern from the side which enables seeing
- EA : Saudi Arabia Model
- AUS : Australian Model
- JE : Tourist Model

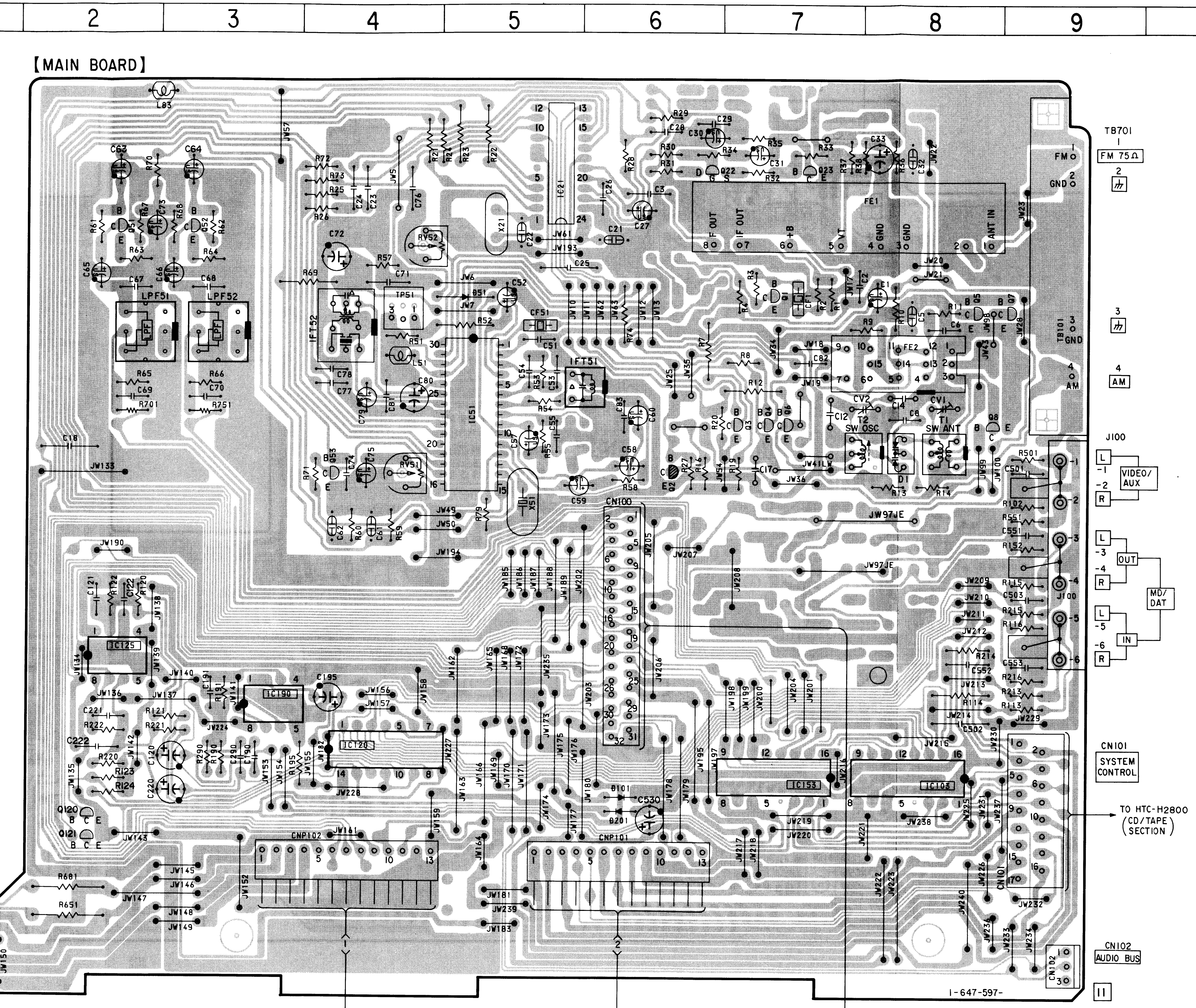

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
【MAIN BOARD】
FE2
LPF51
LPF52
IC21
IC51
IFT52
IFT51
CF51
X21
X51
RV52
RV51
TP51
FE1
F OUT
IF OUT
+B
VT
GND
CV2
T2
SW OSC
CV1
T1
SW ANT
CN100
IC125
IC190
IC120
IC153
IC103
CNP102
CNP101
HDP1
HEADPHONES
L83
1-647-

TO POWER AMP/POWER SUPPLY SECTION AMPLIFIER BOARD (CN601,602) (See page 35)

Ⓑ ←⟨1, 2⟩

Ⓐ TO PANEL SECT PANEL BOARD (CN301) (S

【MAIN BOARD】


2
3
4
5
6
7
8
9
10
TB701
1
FM 75Ω
2
3
4
AM
FM
GND
TB101
J100
L
-1
-2
R
VIDEO/AUX
-3
-4
OUT
MD/DAT
-5
-6
IN
CN101
SYSTEM CONTROL
TO HTC-H2800 (CD/TAPE SECTION)
CN102
AUDIO BUS
11
FE1
FE2
IC21
IC51
IC125
IC190
IC120
IC153
IC105
CN100
CNP102
CNP101
LPF51
LPF52
IFT51
IFT52
SW OSC
SW ANT
1-647-597-

TO POWER AMP/POWER SUPPLY SECTION AMPLIFIER BOARD (CN601,602) **(See page 35)**

B ‹1, 2›

A TO PANEL SECTION PANEL BOARD (CN301) (See page 28)

3-9. PRINTED WIRING BOARDS
(PANEL SECTION)

- See page 8 for semiconductor lead layouts and 10 for circuit boards location.

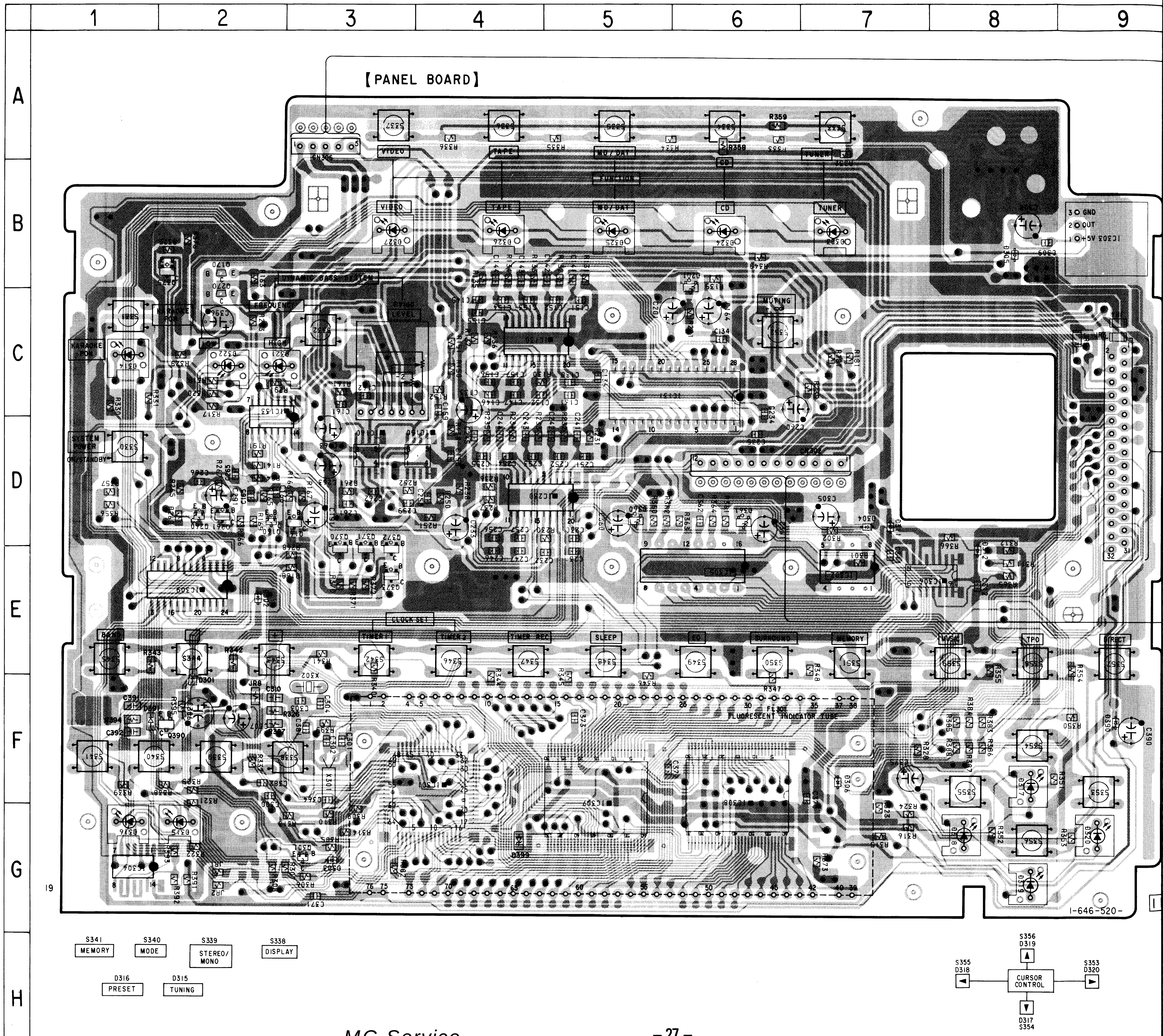
● SEMICONDUCTOR LOCATION
(PANEL SECTION)

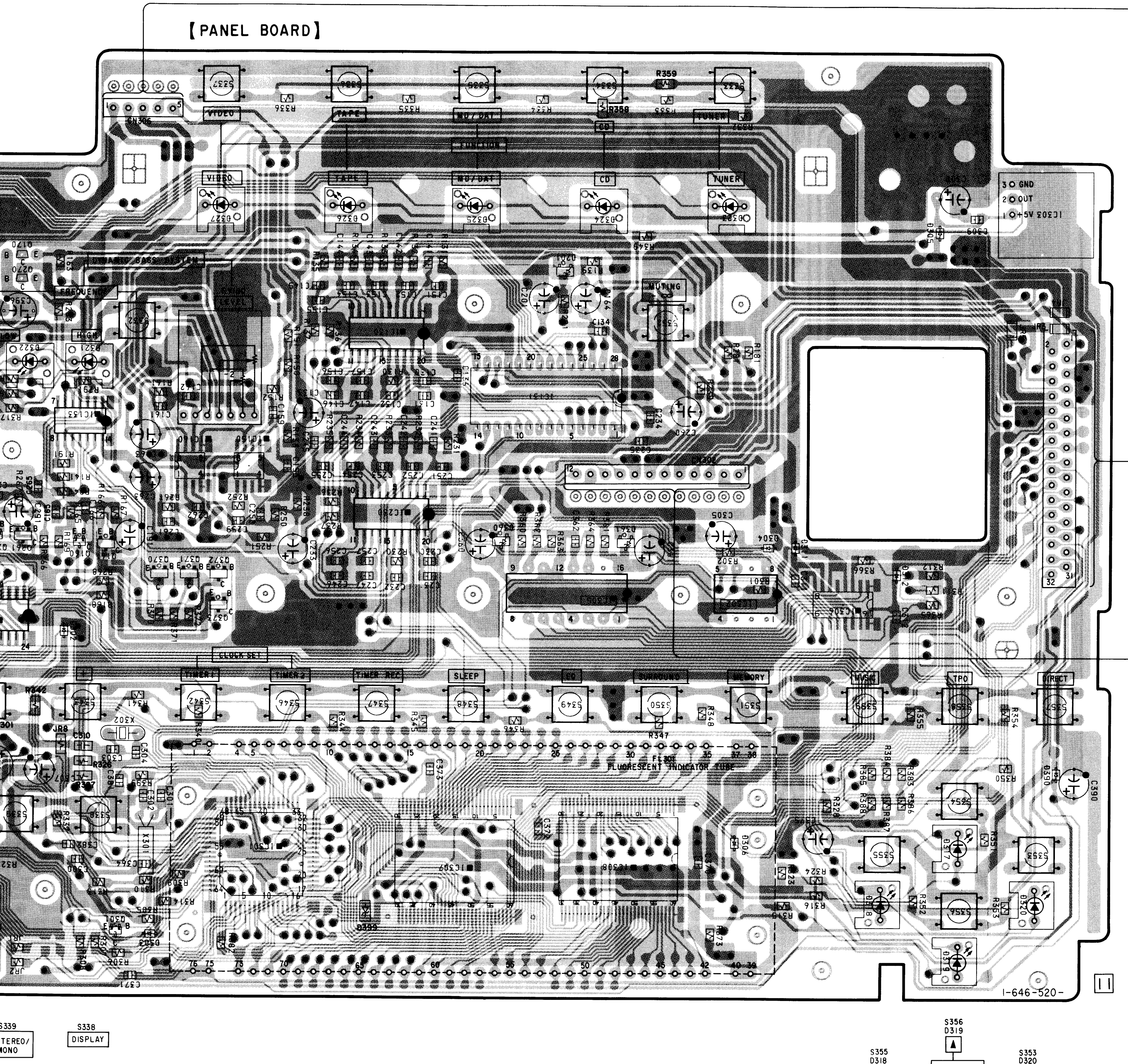
Ref. No.	Location	Ref. No.	Location
D201	B-6	IC230	D-4
D301	E-2	IC301	F-4
D302	E-2	IC302	E-7
D303	G-3	IC303	B-9
D304	D-7	IC304	G-1
D305	B-8	IC305	E-6
D306	F-7	IC306	E-7
D311	D-7	IC307	F-5
D312	E-8	IC308	F-6
D314	C-1	IC309	E-2
D315	G-2	Q160	D-2
D316	G-1	Q161	D-3
D317	F-8	Q170	B-2
D318	G-8	Q260	D-2
D319	G-8	Q261	D-2
D320	G-9	Q270	C-2
D321	C-2	Q301	G-3
D322	C-2	Q370	D-3
D323	B-7	Q371	D-3
D324	B-6	Q372	D-3
D325	B-5	Q373	E-3
D326	B-4	Q375	B-2
D327	B-3	Q390	F-1
D360	D-5		
D361	D-6		
D390	F-9		
D391	F-1		
D399	G-4		
IC130	C-4		
IC131	C-6		
IC133	C-2		
IC150	D-4		
IC160	D-3		

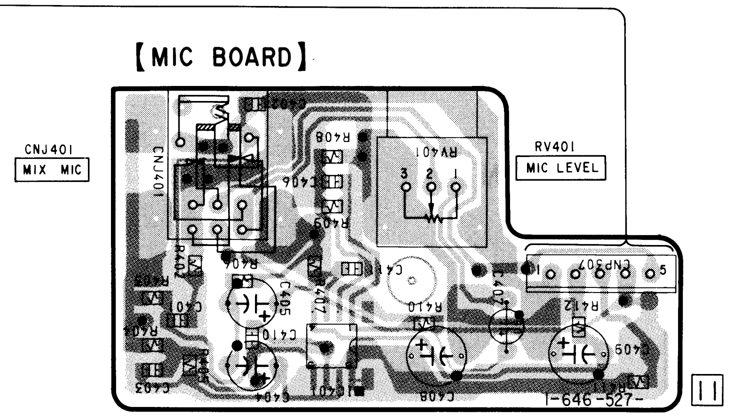
Notes on printed wiring boards:

- ○—— : Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- ● : Through hole
- ▨ : Pattern from the side which enables seeing
- ░ : Pattern of the rear side

- EE : East European Model
- EA : Saudi Arabia Model
- AUS : Australian Model
- JE : Tourist Model

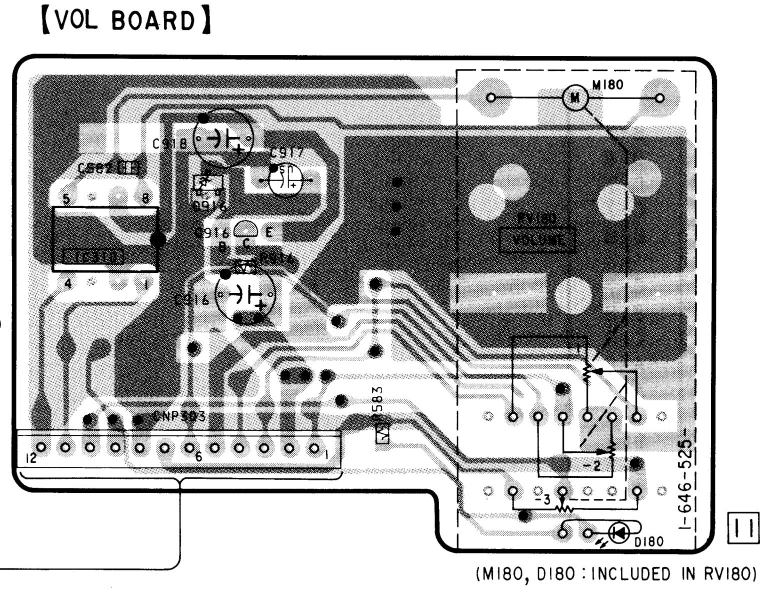

1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
【PANEL BOARD】
VIDEO
TAPE
MD/DAT
CD
TUNER
FUNCTION
KARAOKE PON
SYSTEM POWER
ON/STANDBY
DYNAMIC BASS SYSTEM
FREQUENCY
MUTING
CLOCK SET
TIMER 1
TIMER 2
TIMER REC
SLEEP
SURROUND
MEMORY
TPO
DIRECT
FLUORESCENT INDICATOR TUBE
3 GND
2 OUT
1 +5V
IC303
1-646-520-
S341 MEMORY
S340 MODE
S339 STEREO/MONO
S338 DISPLAY
D316 PRESET
D315 TUNING
S356 D319
S355 D318
S353 D320
CURSOR CONTROL
D317 S354


【PANEL BOARD】
VIDEO
TAPE
MD/DAT
CD
TUNER
FUNCTION
MUTING
3 GND
2 OUT
1 +5V IC303
CLOCK SET
TIMER1
TIMER2
TIMER REC
SLEEP
SURROUND
MEMORY
MUSIC
TPO
DIRECT
FLUORESCENT INDICATOR TUBE
1-646-520-
S339
STEREO/
MONO
S338
DISPLAY

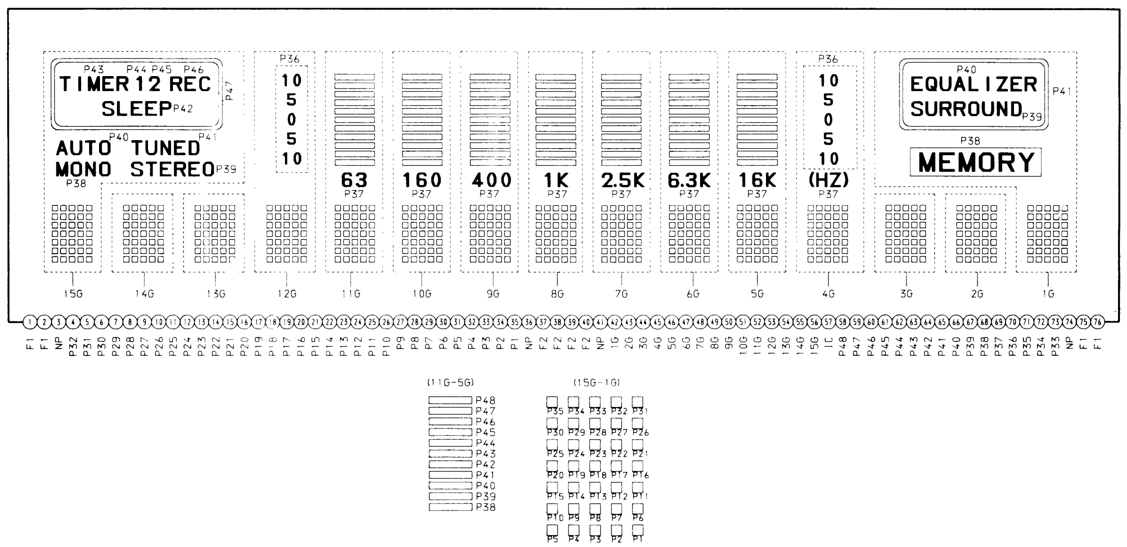

【MIC BOARD】
CNJ401
MIX MIC
RV401
MIC LEVEL
1-646-527-

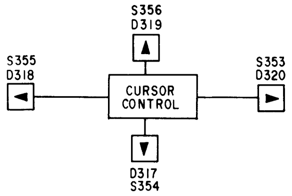
Ⓐ TO MAIN SECTION
MAIN BOARD
(CN100)

(AEP, UK, EE Model : See page 13)
(E, EA, AUS, JE Model : See page 25)


【VOL BOARD】
M180
RV180
VOLUME
CNP303
1-646-525-
D180

(M180, D180 : INCLUDED IN RV180)

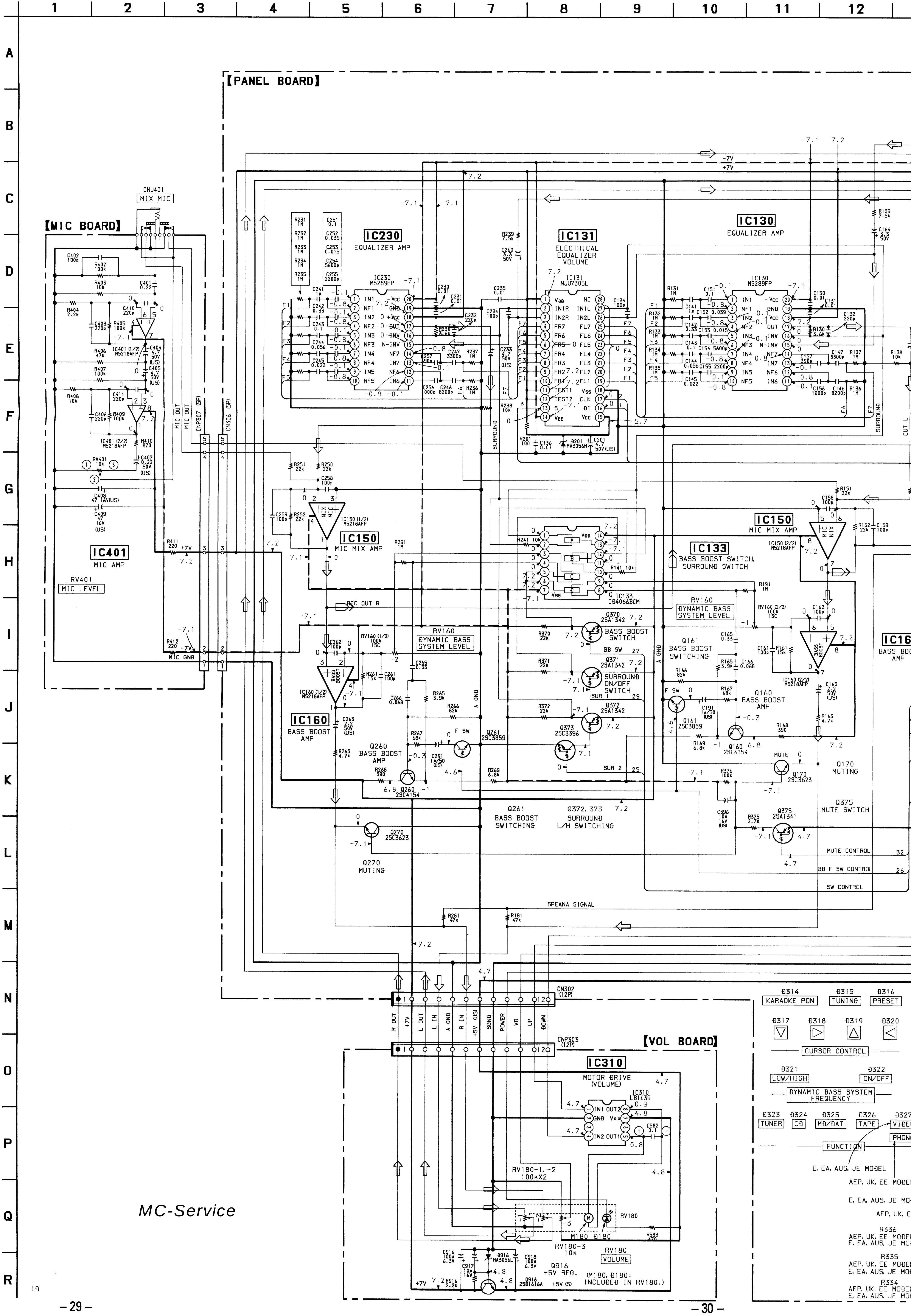

TIMER 12 REC
SLEEP
AUTO TUNED
MONO STEREO
10
5
0
5
10
63
160
400
1K
2.5K
6.3K
16K
(HZ)
EQUALIZER
SURROUND
MEMORY


S356
D319
S355
D318
CURSOR
CONTROL
S353
D320
D317
S354

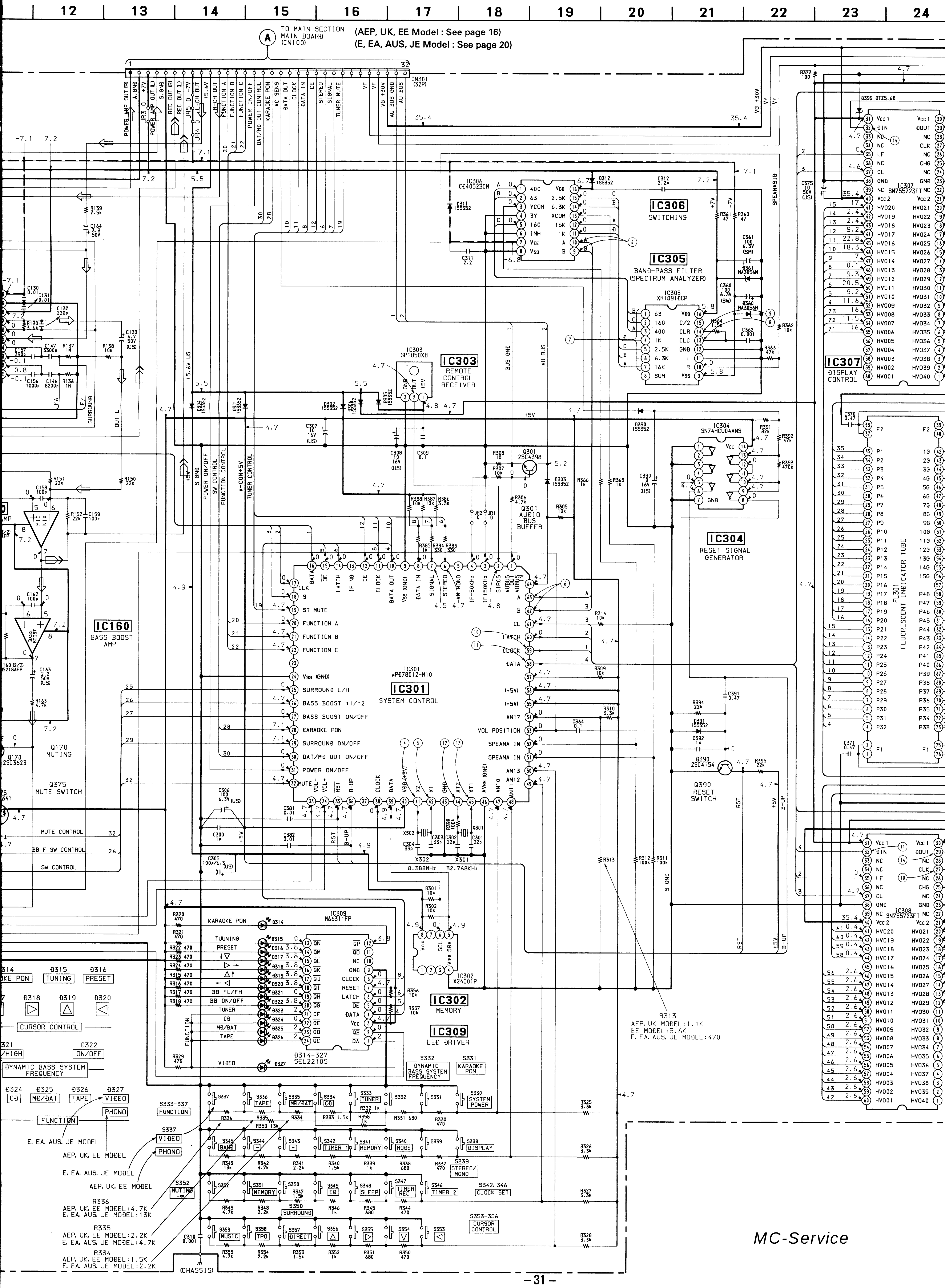
MC-Service

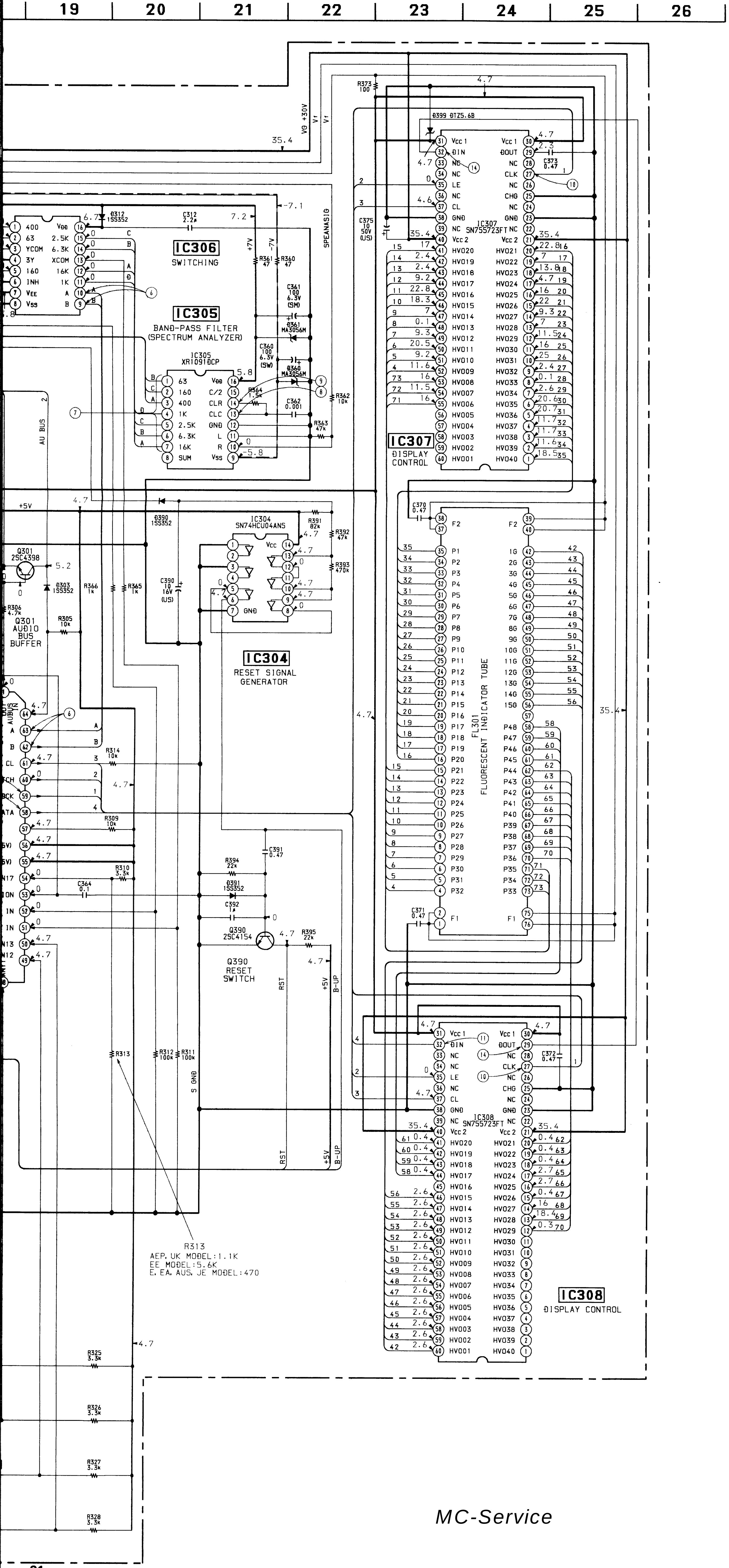
3-10. SCHEMATIC DIAGRAM (PANEL SECTION)

• See page 9 for waveforms, 33 for fluorescent indicator tube (FL301) and 33 for IC block diagram.



1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
【PANEL BOARD】
【MIC BOARD】
CNJ401
MIX MIC
IC401
MIC AMP
RV401
MIC LEVEL
IC401 (1/2) M5218AFP
IC401 (2/2) M5218AFP
MIC OUT
MIC GND
CNP307 (5P)
CN306 (5P)
IC230
EQUALIZER AMP
IC230 M5289FP
IC131
ELECTRICAL EQUALIZER VOLUME
IC131 NJU7305L
IC130
EQUALIZER AMP
IC130 M5289FP
IC150
MIC MIX AMP
IC150 (1/2) M5218AFP
IC150 (2/2) M5218AFP
IC133
BASS BOOST SWITCH, SURROUND SWITCH
IC133 CD4066BCM
IC160
BASS BOOST AMP
IC160 (1/2) M5218AFP
IC160 (2/2) M5218AFP
RV160
DYNAMIC BASS SYSTEM LEVEL
RV160 (1/2) 100k 15C
RV160 (2/2) 100k 15C
REC OUT R
SURROUND
Q370 2SA1342
BASS BOOST SWITCH
BB SW
Q371 2SA1342
SURROUND ON/OFF SWITCH
SUR 1
Q372 2SA1342
Q373 2SC3396
SUR 2
Q261 2SC3859
Q261 BASS BOOST SWITCHING
Q372, 373 SURROUND L/H SWITCHING
Q260 BASS BOOST AMP
Q260 2SC4154
Q161 BASS BOOST SWITCHING
Q161 2SC3859
Q160 BASS BOOST AMP
Q160 2SC4154
F SW
Q270 2SC3623
Q270 MUTING
Q170 MUTING
Q170 2SC3623
MUTE
Q375 MUTE SWITCH
Q375 2SA1341
MUTE CONTROL
BB F SW CONTROL
SW CONTROL
SPEANA SIGNAL
-7V
+7V
CN302 (12P)
CNP303 (12P)
R OUT
+7V
L OUT
L IN
A GND
R IN
+5V (US)
SGND
POWER
VR
UP
DOWN
【VOL BOARD】
IC310
MOTOR DRIVE (VOLUME)
IC310 LB1639
RV180-1, -2 100k×2
RV180-3 10k
RV180 VOLUME
M180 D180
Q916 +5V REG.
Q916 2SD1616A
D916 MA3056L
(M180, D180: INCLUDED IN RV180.)
D314 KARAOKE PON
D315 TUNING
D316 PRESET
D317
D318
D319
D320
CURSOR CONTROL
D321 LOW/HIGH
D322 ON/OFF
DYNAMIC BASS SYSTEM FREQUENCY
D323 TUNER
D324 CD
D325 MD/DAT
D326 TAPE
D327
FUNCTION
E, EA, AUS, JE MODEL
AEP, UK, EE MODEL
R336
R335
R334
19


12 13 14 15 16 17 18 19 20 21 22 23 24
TO MAIN SECTION MAIN BOARD (CN100)
(AEP, UK, EE Model : See page 16)
(E, EA, AUS, JE Model : See page 20)
CN301 (32P)
IC306 SWITCHING
IC306 CD4052BCM
IC305 BAND-PASS FILTER (SPECTRUM ANALYZER)
IC305 XR1091DCP
IC303 REMOTE CONTROL RECEIVER
IC303 GP1U50XB
Q301 AUDIO BUS BUFFER
Q301 2SC4398
IC304 RESET SIGNAL GENERATOR
IC304 SN74HCU04ANS
IC307 DISPLAY CONTROL
IC307 SN75723FT
IC308 SN75723FT
FL301 FLUORESCENT INDICATOR TUBE
IC160 BASS BOOST AMP
Q170 MUTING
Q170 2SC3623
Q375 MUTE SWITCH
IC301 SYSTEM CONTROL
IC301 μPD78012-M10
IC302 MEMORY
IC302 X24C01P
IC309 LED DRIVER
IC309 M66311FP
D314-327 SEL2210S
Q390 RESET SWITCH
Q390 2SC4154
X302 8.388MHz
X301 32.768KHz
R313 AEP, UK MODEL:1.1K EE MODEL:5.6K E, EA, AUS, JE MODEL:470
R336 AEP, UK, EE MODEL:4.7K E, EA, AUS, JE MODEL:13K
R335 AEP, UK, EE MODEL:2.2K E, EA, AUS, JE MODEL:4.7K
R334 AEP, UK, EE MODEL:1.5K E, EA, AUS, JE MODEL:2.2K
E, EA, AUS, JE MODEL
AEP, UK, EE MODEL
KARAOKE PON
TUNING
PRESET
CURSOR CONTROL
DYNAMIC BASS SYSTEM FREQUENCY
FUNCTION
S331 KARAOKE PON
S332 DYNAMIC BASS SYSTEM FREQUENCY
S333-337 FUNCTION
S352 MUTING -∞
S339 STEREO/MONO
S342, 346 CLOCK SET
S353-356 CURSOR CONTROL
SYSTEM POWER
TUNER
MD/DAT
CD
TAPE
VIDEO
PHONO
BAND
TIMER
MEMORY
MODE
DISPLAY
SLEEP
TIMER REC
TIMER 2
EQ
SURROUND
MUSIC
TPO
DIRECT
MUTE CONTROL
BB F SW CONTROL
SW CONTROL
CHASSIS

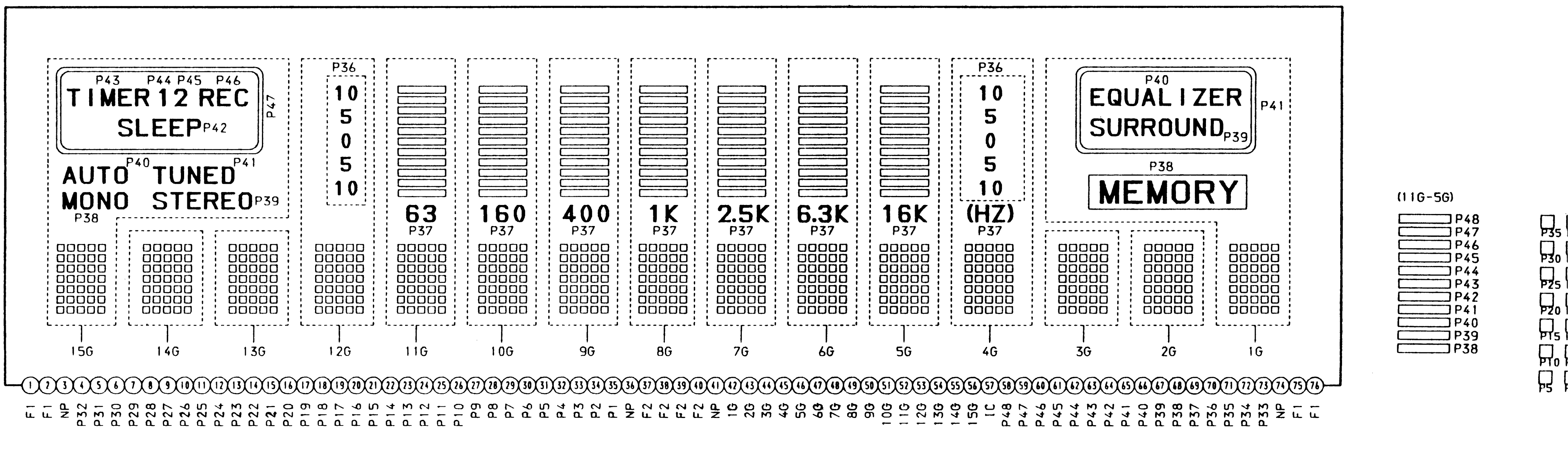

19
20
21
22
23
24
25
26
IC306
SWITCHING
IC305
BAND-PASS FILTER
(SPECTRUM ANALYZER)
IC305
XR10910CP
IC304
SN74HCU04ANS
IC304
RESET SIGNAL
GENERATOR
Q301
2SC4398
Q301
AUDIO
BUS
BUFFER
Q390
2SC4154
Q390
RESET
SWITCH
IC307
SN75S723FT
IC307
DISPLAY
CONTROL
FL301
FLUORESCENT INDICATOR TUBE
IC308
SN75S723FT
IC308
DISPLAY CONTROL
D399 DTZ5.6B
D312 1SS352
D390 1SS352
D391 1SS352
D303 1SS352
D361 MA3056M
D360 MA3056M
AU BUS
SPEANASIG
VG +30V
Vf
+5V
B-UP
RST
S GND
R313
AEP, UK MODEL:1.1K
EE MODEL:5.6K
E, EA, AUS, JE MODEL:470

Notes on schematic diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- ▬▬: B + Line
- ■■■■: B − Line
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : FM
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  - ⇨ : FM
  - ▷: Record (To HTC-H2800 deck section of record signal.)

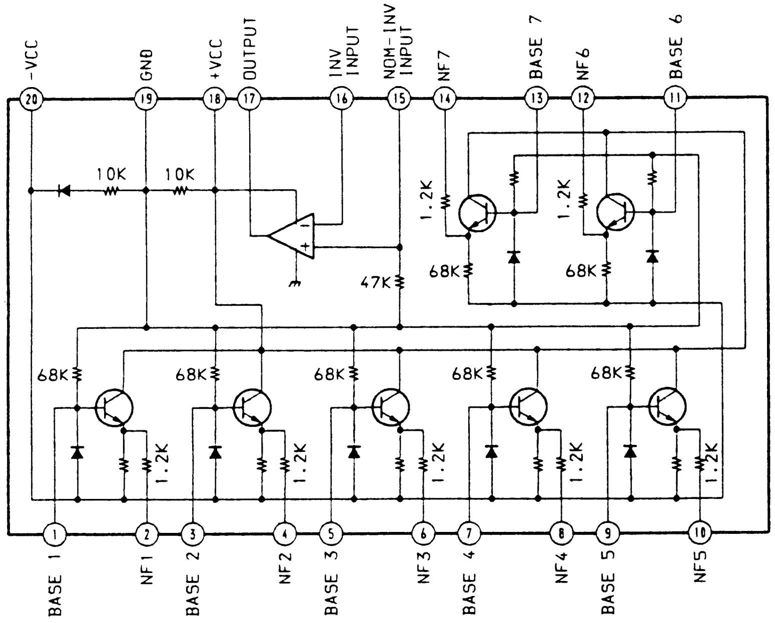
- EE : East European Model
- EA : Saudi Arabia Model
- AUS : Australian Model
- JE : Tourist Model

3-11. FLUORESCENT INDICATOR TUBE (FL301)

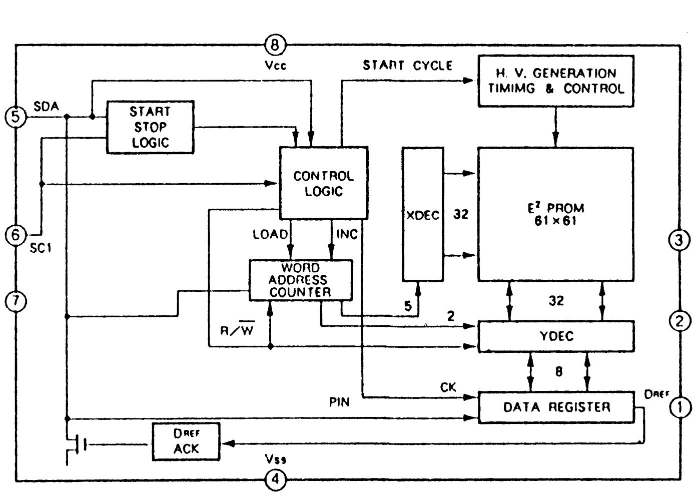

TIMER 12 REC
SLEEP
AUTO TUNED
MONO STEREO
P43 P44 P45 P46 P47 P42 P40 P41 P38 P39
P36
10 5 0 5 10
63 160 400 1K 2.5K 6.3K 16K (HZ)
P37
EQUALIZER
SURROUND
MEMORY
15G 14G 13G 12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G
(11G-5G)
P48 P47 P46 P45 P44 P43 P42 P41 P40 P39 P38
P35 P30 P25 P20 P15 P10 P5

3-12. IC BLOCK DIAGRAMS (PANEL SECTION)

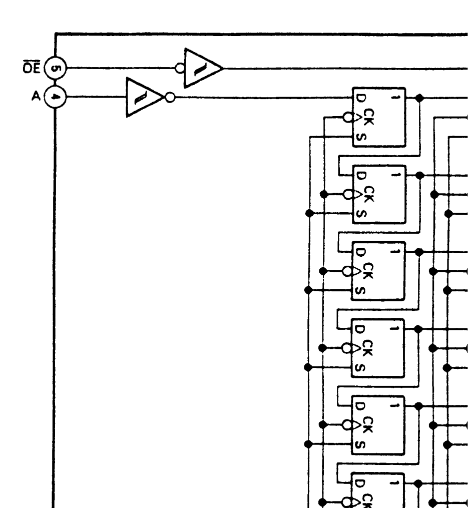
IC130, 230 M5289FP-71NC


-VCC
GND
+VCC
OUTPUT
INV INPUT
NON-INV. INPUT
NF7
BASE 7
NF6
BASE 6
10K
10K
1.2K
47K
68K
BASE 1
NF1
BASE 2
NF2
BASE 3
NF3
BASE 4
NF4
BASE 5
NF5

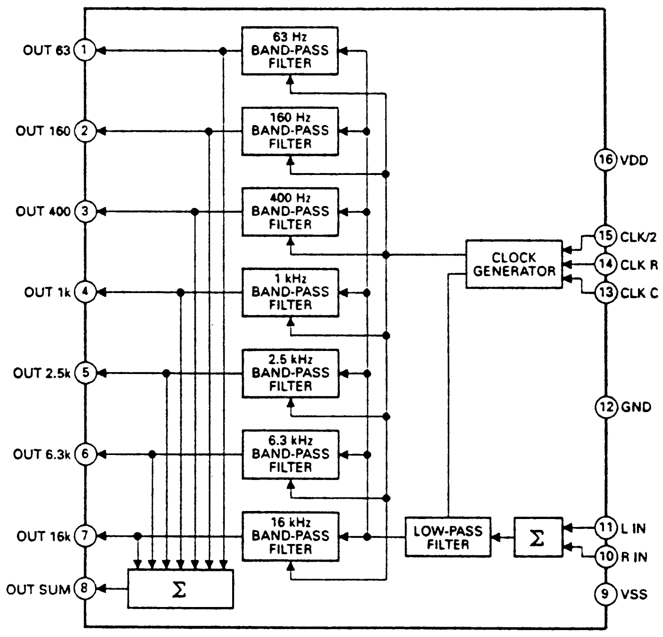
IC302 X24C01P


Vcc
START CYCLE
H. V. GENERATION TIMIMG & CONTROL
SDA
START STOP LOGIC
CONTROL LOGIC
XDEC
E² PROM 61×61
SC1
LOAD
INC
WORD ADDRESS COUNTER
R/W
YDEC
CK
PIN
DATA REGISTER
Dout
Dout ACK
Vss

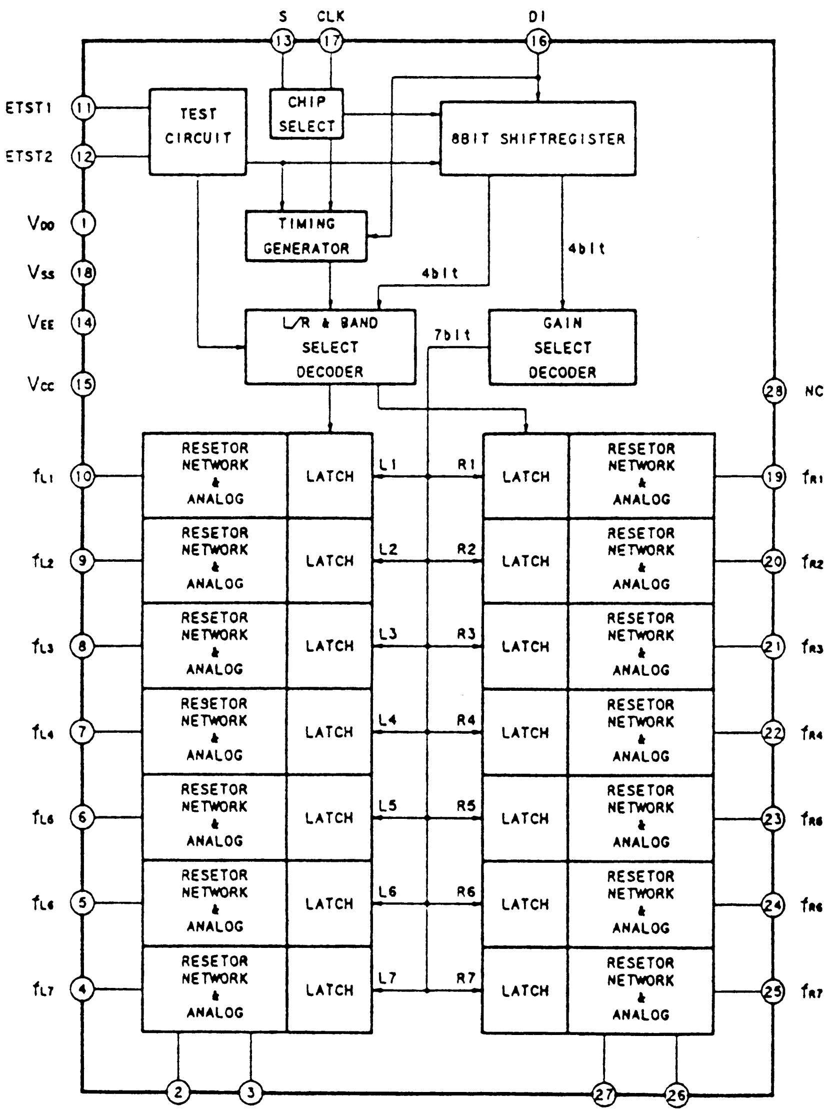
IC309 M66311FP


OE
A
CKS
R
CKL
GND
D
CK
S

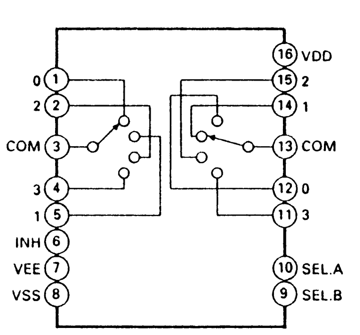
IC305 XR1901DCP


OUT 63
OUT 160
OUT 400
OUT 1k
OUT 2.5k
OUT 6.3k
OUT 16k
OUT SUM
63 Hz BAND-PASS FILTER
160 Hz BAND-PASS FILTER
400 Hz BAND-PASS FILTER
1 kHz BAND-PASS FILTER
2.5 kHz BAND-PASS FILTER
6.3 kHz BAND-PASS FILTER
16 kHz BAND-PASS FILTER
VDD
CLOCK GENERATOR
CLK/2
CLK R
CLK C
GND
LOW-PASS FILTER
Σ
L IN
R IN
VSS

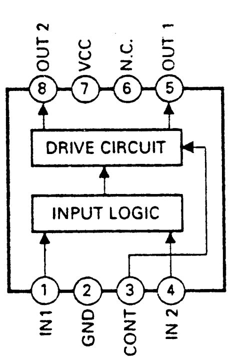
IC131 NJU7305L

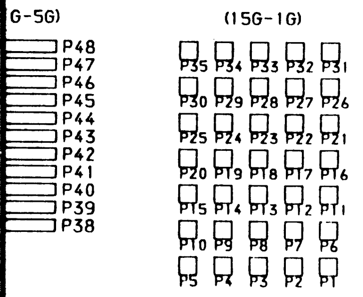

S
CLK
DI
ETST1
ETST2
TEST CIRCUIT
CHIP SELECT
8BIT SHIFTREGISTER
VDD
VSS
VEE
Vcc
TIMING GENERATOR
4bit
4bit
L/R & BAND SELECT DECODER
7bit
GAIN SELECT DECODER
NC
RESETOR NETWORK & ANALOG
LATCH
L1 R1 L2 R2 L3 R3 L4 R4 L5 R5 L6 R6 L7 R7
fL1 fL2 fL3 fL4 fL5 fL6 fL7
fR1 fR2 fR3 fR4 fR5 fR6 fR7
IN1L IN2L IN1R IN2R

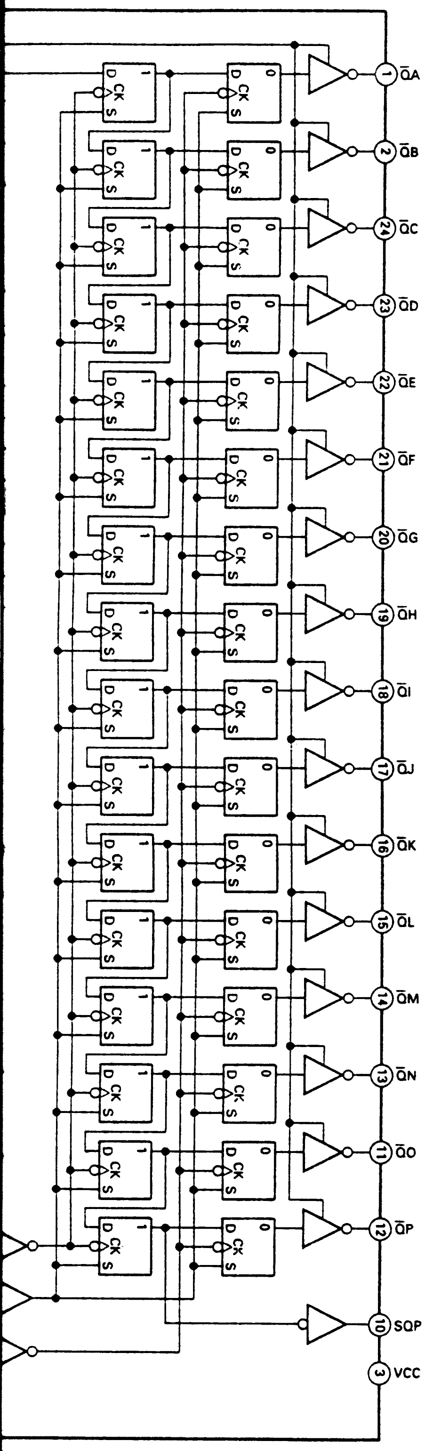
IC306 CD4052BCM


0
2
COM
3
1
INH
VEE
VSS
VDD
2
1
COM
0
3
SEL.A
SEL.B

IC310 LB1639


OUT 2
VCC
N.C.
OUT 1
DRIVE CIRCUIT
INPUT LOGIC
IN1
GND
V CONT
IN 2


G-5G)
(15G-1G)
P48
P47
P46
P45
P44
P43
P42
P41
P40
P39
P38
P35 P34 P33 P32 P31
P30 P29 P28 P27 P26
P25 P24 P23 P22 P21
P20 P19 P18 P17 P16
P15 P14 P13 P12 P11
P10 P9 P8 P7 P6
P5 P4 P3 P2 P1


D CK S
QA
QB
QC
QD
QE
QF
QG
QH
QI
QJ
QK
QL
QM
QN
QO
QP
SQP
VCC

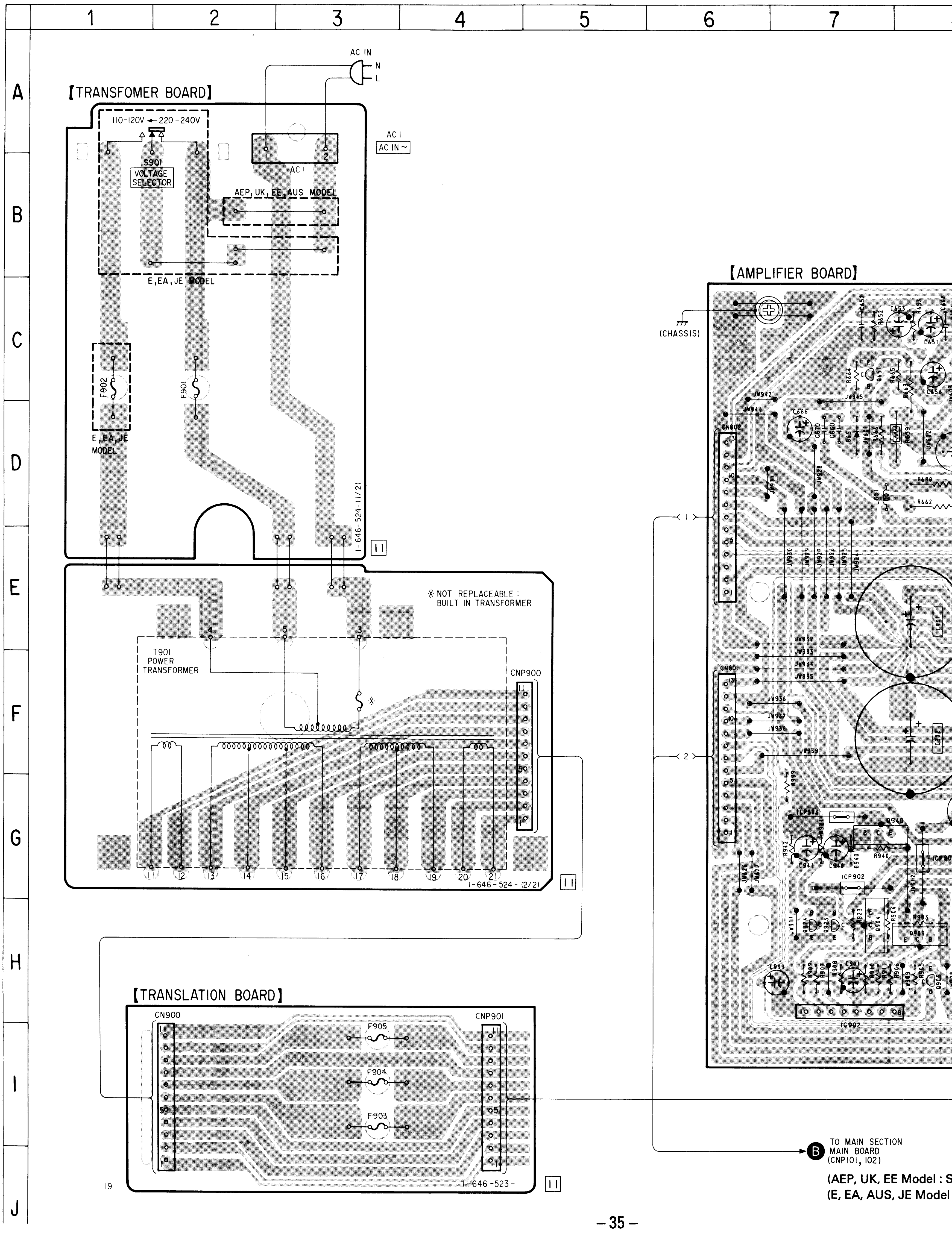
● SEMICONDUCTOR LOCATION

(POWER AMP/POWER SUPPLY SECTION)

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D601	D-9	D924	E-9	Q905	H-8
D602	D-12	D930	F-9	Q920	G-9
D604	B-13	D931	F-9	Q921	H-9
D605	C-13	D940	G-7	Q922	G-9
D651	D-7			Q923	H-7
		IC601	C-9		
D900	G-9	IC602	C-14	Q924	H-7
D901	H-9	IC902	H-7	Q930	E-9
D902	H-9			Q940	G-7
D903	H-10	Q601	C-11		
D904	H-10	Q602	D-14		
		Q603	D-14		
D905	D-10	Q651	C-7		
D906	D-10	Q903	H-8		
D920	G-9				
D921	H-9	Q904	H-7		

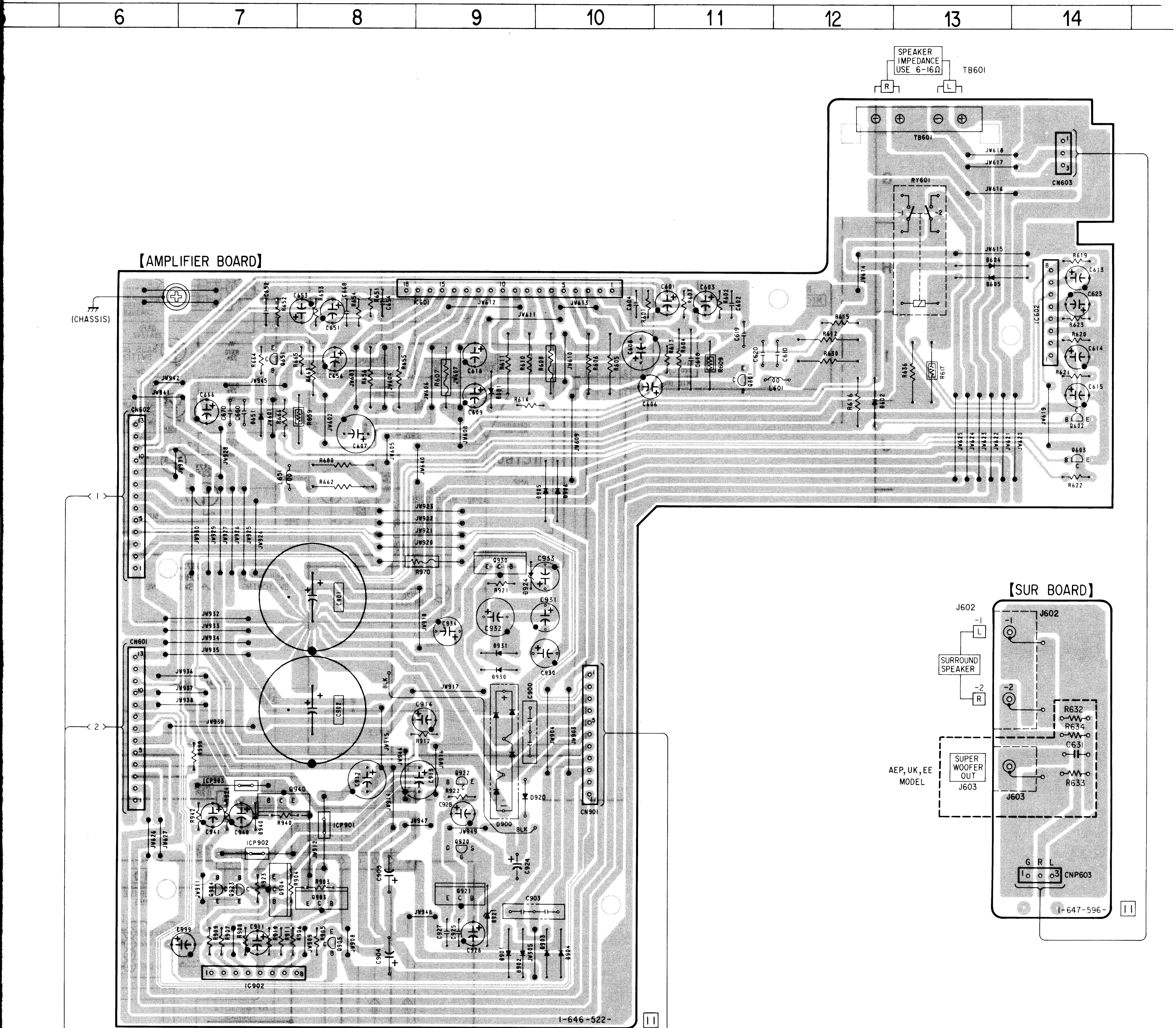
3-13. PRINTED WIRING BOARDS (POWER AMP/POWER SUPPLY SECTION)

• See page 8 for semiconductor lead layouts and 10 for circuit boards l


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
AC IN
N
L
【TRANSFOMER BOARD】
110-120V ← 220-240V
S901
VOLTAGE SELECTOR
AC1
AC I
AC IN ~
AEP, UK, EE, AUS MODEL
E, EA, JE MODEL
F902
F901
E, EA, JE MODEL
1-646-524-(1/2)
11
※ NOT REPLACEABLE : BUILT IN TRANSFORMER
T901
POWER TRANSFORMER
CNP900
1-646-524-(2/2)
【TRANSLATION BOARD】
CN900
CNP901
F905
F904
F903
1-646-523-
19
【AMPLIFIER BOARD】
(CHASSIS)
CN602
CN601
IC902
ICP902
ICP903
C901
C902
TO MAIN SECTION MAIN BOARD (CNP101, 102)
B
(AEP, UK, EE Model : S
(E, EA, AUS, JE Model

ocation
H-8
G-9
H-9
G-9
H-7
H-7
E-9
G-7

for semiconductor lead layouts and 10 for circuit boards location.



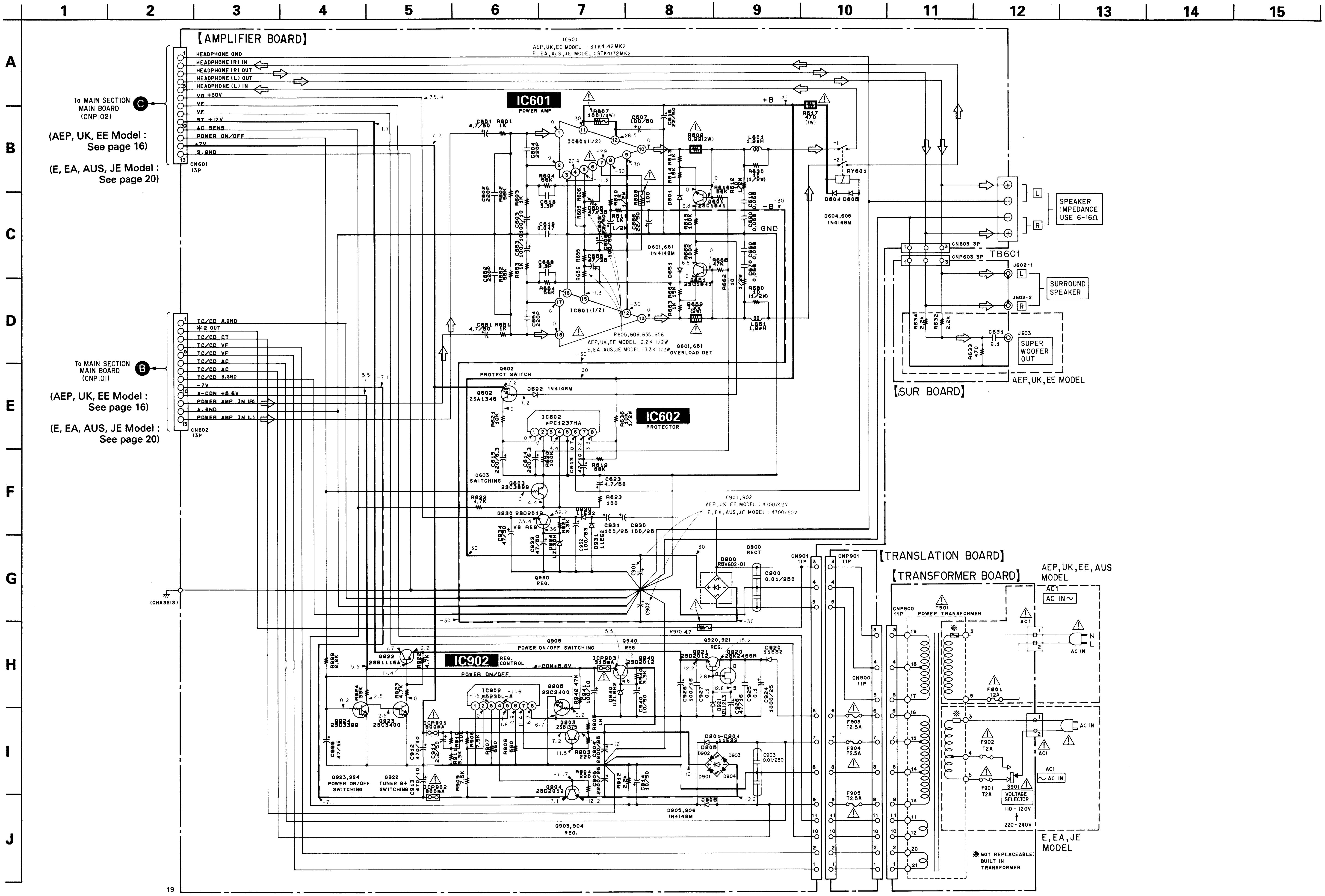
6
7
8
9
10
11
12
13
14
SPEAKER IMPEDANCE USE 6-16Ω
TB601
R
L
TB601
RY601
CN603
CN602
[AMPLIFIER BOARD]
(CHASSIS)
CN601
CN901
C901
C902
IC902
1-646-522-
11
[SUR BOARD]
J602
-1
L
SURROUND SPEAKER
-2
R
R632
R634
C631
R633
AEP, UK, EE MODEL
SUPER WOOFER OUT
J603
G R L
CNP603
1-647-596-
11
TO MAIN SECTION
B
MAIN BOARD
(CNP101, 102)

(AEP, UK, EE Model : See page 12)
(E, EA, AUS, JE Model : See page 24)

Notes on printed wiring boards:

- ○—— : Indicated a lead wire mounted on the component side
- ▨ : Pattern from the side which enables seeing

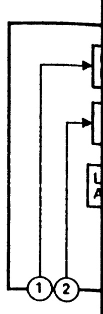
3-14. SCHEMATIC DIAGRAM (POWER AMP/POWER SUPPLY SECTION)


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J
【AMPLIFIER BOARD】
To MAIN SECTION MAIN BOARD (CNP102)
(AEP, UK, EE Model : See page 16)
(E, EA, AUS, JE Model : See page 20)
HEADPHONE GND
HEADPHONE (R) IN
HEADPHONE (R) OUT
HEADPHONE (L) OUT
HEADPHONE (L) IN
VB +30V
VF
VF
ST +12V
AC SENS
POWER ON/OFF
+7V
S.GND
CN601 13P
To MAIN SECTION MAIN BOARD (CN101)
(AEP, UK, EE Model : See page 16)
(E, EA, AUS, JE Model : See page 20)
TC/CD A.GND
* 2 OUT
TC/CD CT
TC/CD VF
TC/CD VF
TC/CD AC
TC/CD AC
TC/CD S.GND
-7V
s-CON +5.6V
POWER AMP IN (R)
A.GND
POWER AMP IN (L)
CN602 13P
(CHASSIS)
IC601
AEP,UK,EE MODEL : STK4142MK2
E,EA,AUS,JE MODEL : STK4172MK2
IC601
POWER AMP
IC601(1/2)
IC601(1/2)
R605,606,655,656
AEP,UK,EE MODEL : 2.2K 1/2W
E,EA,AUS,JE MODEL : 3.3K 1/2W
Q601,651 OVERLOAD DET
D601,651 1N4148M
D604,605 1N4148M
RY601
GND
+B
-B
SPEAKER IMPEDANCE USE 6-16Ω
L
R
CN603 3P
CNP603 3P
TB601
J602-1
J602-2
SURROUND SPEAKER
J603
SUPER WOOFER OUT
【SUR BOARD】
AEP,UK,EE MODEL
Q602 PROTECT SWITCH
Q602 2SA1346
D602 1N4148M
IC602
IC602 µPC1237HA
PROTECTOR
Q603 SWITCHING
Q603 2SC3399
Q930 2SD2012
Q930 REG.
C901,902
AEP,UK,EE MODEL : 4700/42V
E,EA,AUS,JE MODEL : 4700/50V
D900 RECT
D900 RBV602-01
C900 0.01/250
R970 4.7
CN901 11P
CNP901 11P
【TRANSLATION BOARD】
【TRANSFORMER BOARD】
AEP,UK,EE,AUS MODEL
AC1
AC IN~
CNP900 11P
T901 POWER TRANSFORMER
AC IN
F901 T2A
F902 T2A
S901 VOLTAGE SELECTOR
110-120V
220-240V
E,EA,JE MODEL
※NOT REPLACEABLE: BUILT IN TRANSFORMER
CN900 11P
F903 T2.5A
F904 T2.5A
F905 T2.5A
Q905 POWER ON/OFF SWITCHING
Q940 REG
Q920,921 REG.
D920 11E2
Q920 2SK2468R
Q921 2SD2012
Q940 2SD2012
ICP903 315mA
IC902
REG. CONTROL
s-CON+5.6V
POWER ON/OFF
IC902 M5230L-A
Q905 2SC3400
Q903 2SB1375
Q904 2SD2012
Q922 2SB1116A
Q923 2SC3400
Q924 2SC3399
ICP901 800mA
ICP902 800mA
D901-D904 11ES2
D905,906 1N4148M
C903 0.01/250
Q923,924 POWER ON/OFF SWITCHING
Q922 TUNER B+ SWITCHING
Q903,904 REG.
19

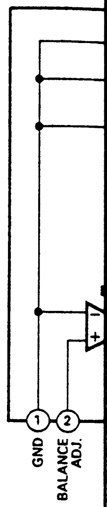
MC-Service

3-15. IC

IC602 µ



IC902 M


GND
BALANCE ADJ.

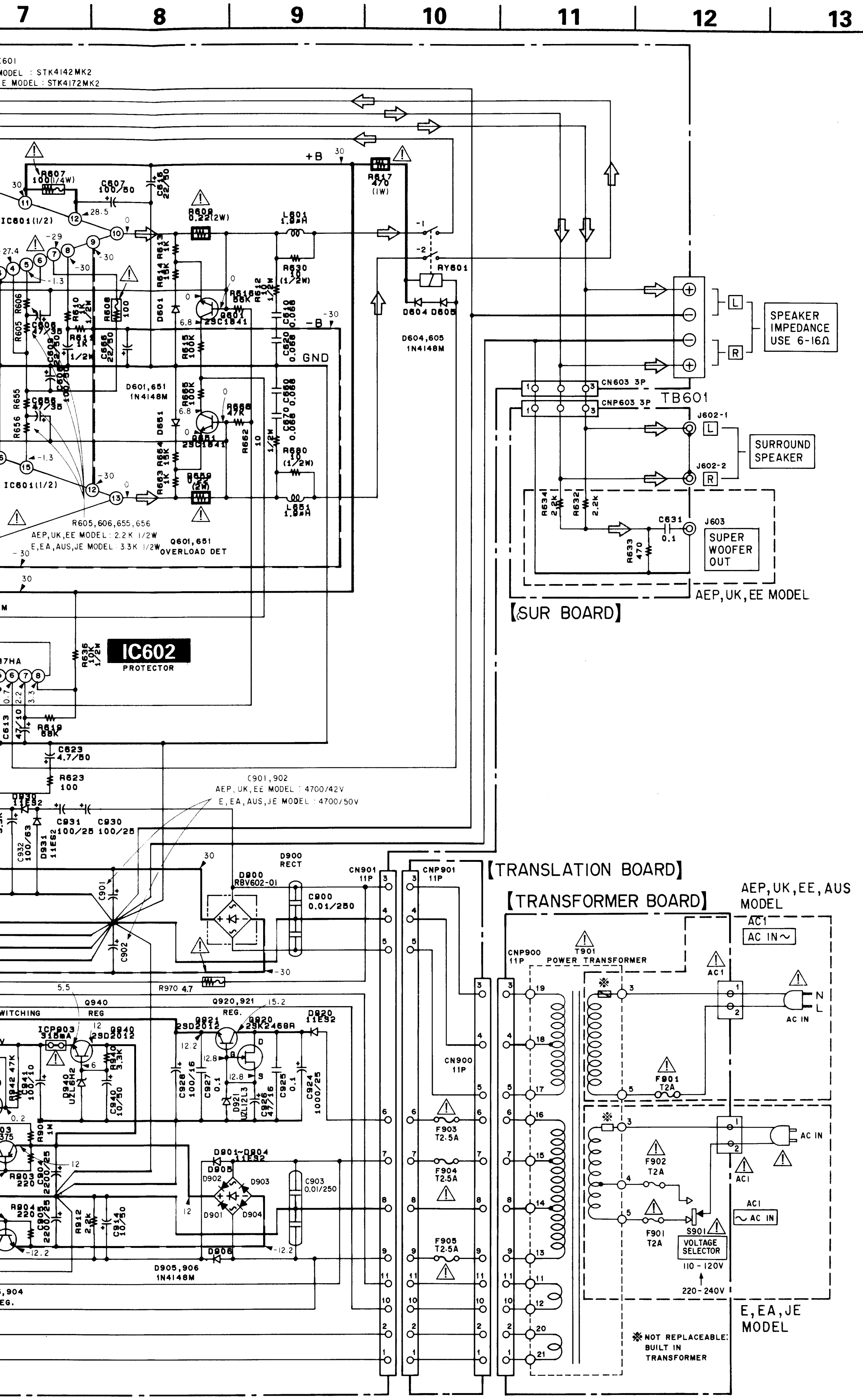
Notes on

- All cap
or less
- All res
- :
- :

The comp
dotted li
safety.
Replace

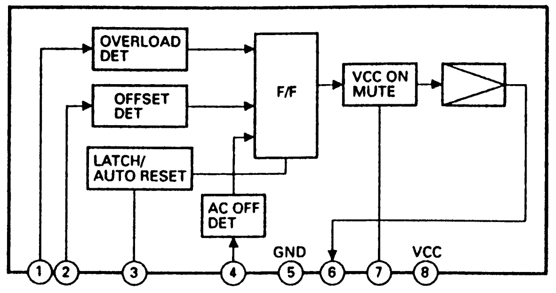
- :
- :
- Voltag
tions.
- No ma
- Voltag
Voltag
toleran
- Signal
⇨ :

- EE :
- EA :
- AUS :
- JE :

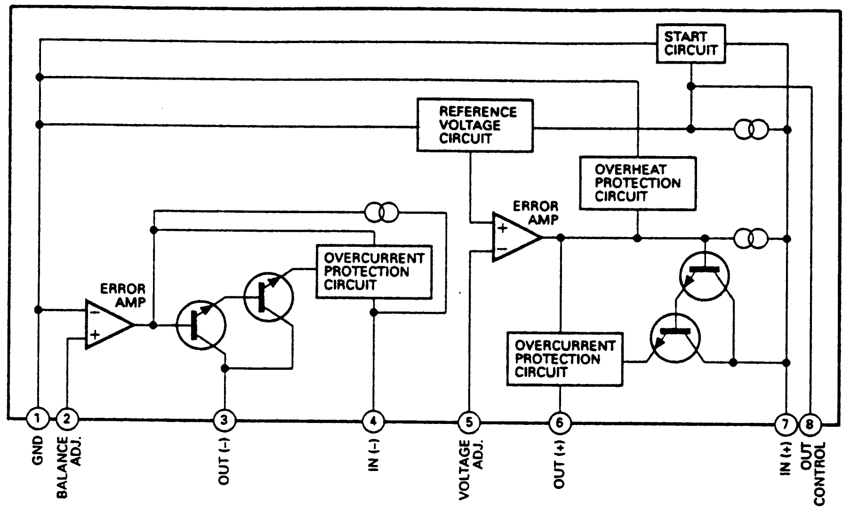

7
8
9
10
11
12
13
14
15
IC602
PROTECTOR
SPEAKER IMPEDANCE USE 6-16Ω
TB601
CN603 3P
CNP603 3P
SURROUND SPEAKER
SUPER WOOFER OUT
J603
J602-1
J602-2
RY601
AEP,UK,EE MODEL
【SUR BOARD】
【TRANSLATION BOARD】
【TRANSFORMER BOARD】
AEP,UK,EE,AUS MODEL
E,EA,JE MODEL
T901 POWER TRANSFORMER
CN901 11P
CNP901 11P
CN900 11P
CNP900 11P
AC IN
VOLTAGE SELECTOR
110 - 120V
220 - 240V
※NOT REPLACEABLE: BUILT IN TRANSFORMER
D900 RECT
R605,606,655,656 AEP,UK,EE MODEL : 2.2K 1/2W E,EA,AUS,JE MODEL : 3.3K 1/2W
Q601,651 OVERLOAD DET
C901,902 AEP,UK,EE MODEL : 4700/42V E,EA,AUS,JE MODEL : 4700/50V
D905,906 1N4148M

3-15. IC BLOCK DIAGRAM (POWER AMP/POWER SUPPLY SECTION)

IC602 μPC1237HA


OVERLOAD DET
OFFSET DET
LATCH/ AUTO RESET
AC OFF DET
F/F
VCC ON MUTE
GND
VCC
1
2
3
4
5
6
7
8

IC902 M5230L


START CIRCUIT
REFERENCE VOLTAGE CIRCUIT
OVERHEAT PROTECTION CIRCUIT
ERROR AMP
OVERCURRENT PROTECTION CIRCUIT
ERROR AMP
OVERCURRENT PROTECTION CIRCUIT
GND
BALANCE ADJ.
OUT (-)
IN (-)
VOLTAGE ADJ.
OUT (+)
IN (+)
OUT CONTROL
1
2
3
4
5
6
7
8

Notes on schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- ▭ : Nonflammable resistor
- ⏛ : Fuse resistor

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬ : B+ Line
- ╍ : B− Line
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : FM
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path
  ⇨ : FM

- EE : East European Model
- EA : Saudi Arabia Model
- AUS : Australian Model
- JE : Tourist Model

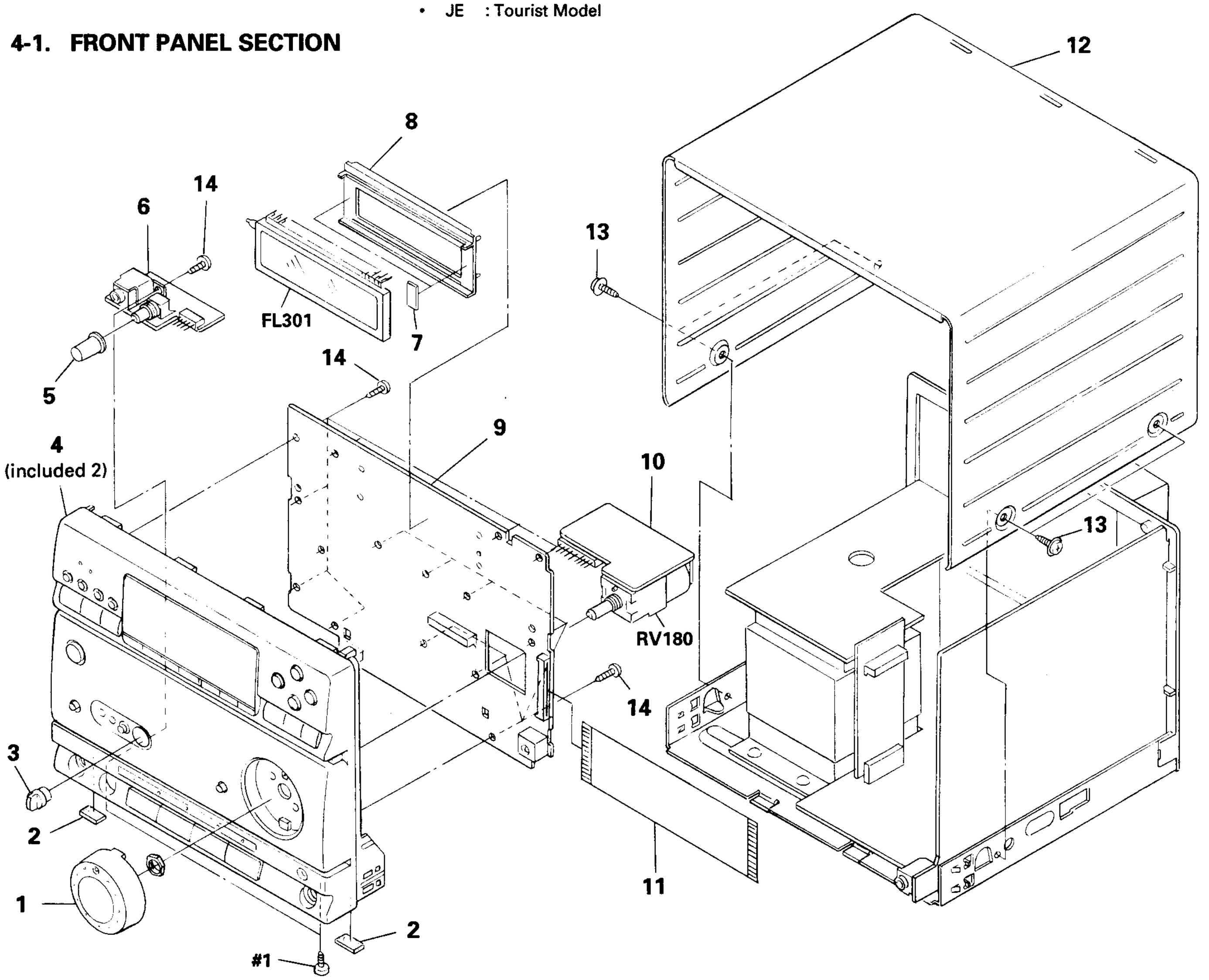
SECTION 4
EXPLODED VIEWS

NOTE:

- –XX, –X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB,BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware(# mark) list is given in the last of this parts list.
- EE : East European Model
- EA : Saudi Arabia Model
- AUS : Australian Model
- JE : Tourist Model

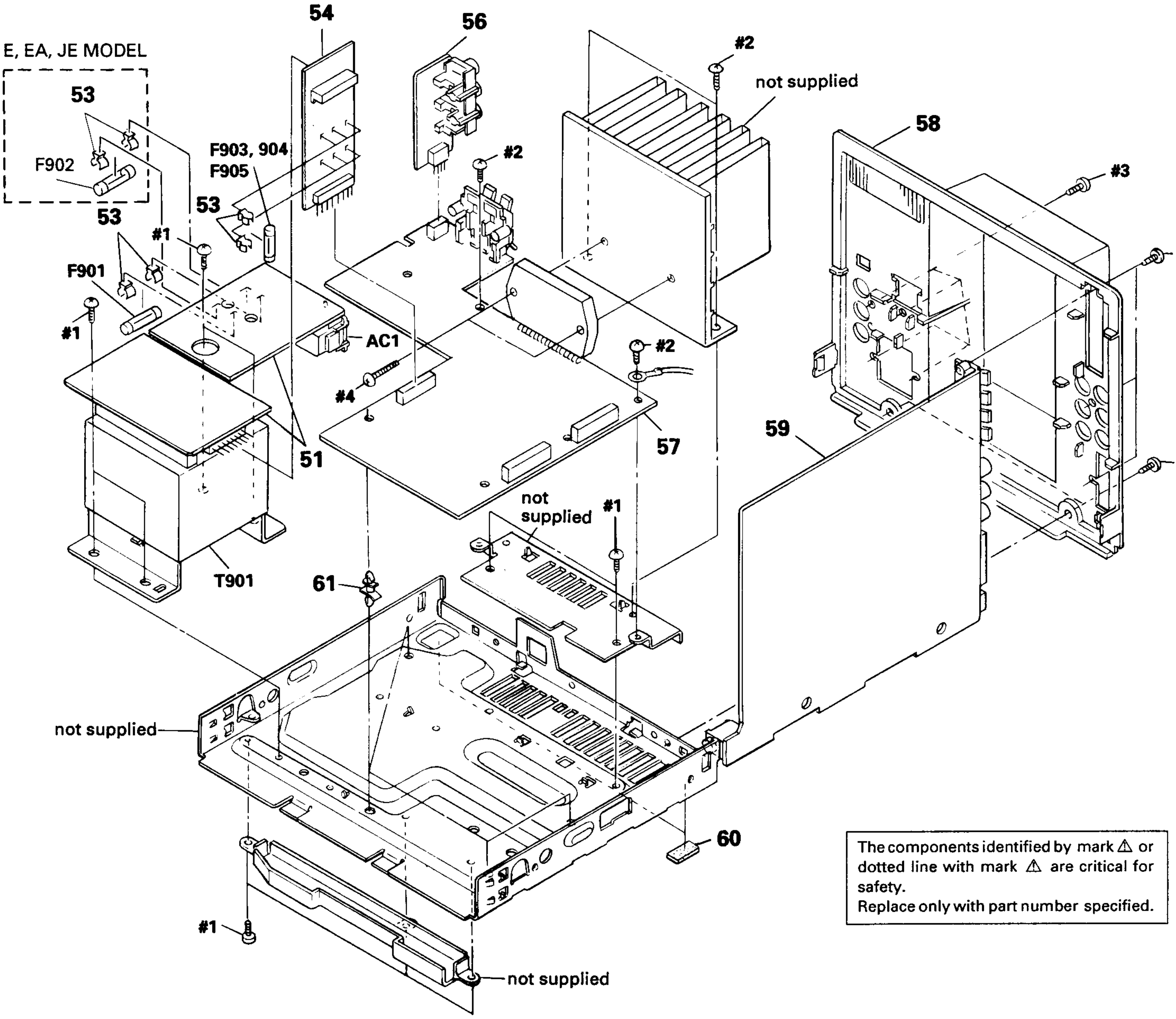
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

4-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks
1	X-4942-957-1	KNOB (VOLUME) ASSY	
2	4-930-336-11	FOOT (FELT)	
3	4-954-799-01	KNOB (MICROPHONE)	
4	X-4943-282-1	PANEL ASSY, FRONT (AEP, UK, EE)	
4	X-4943-283-1	PANEL ASSY, FRONT (E, EA, AUS, JE)	
5	4-956-137-01	KNOB (HP VOL)	
* 6	A-4356-725-A	MIC BOARD, COMPLETE (EXCEPT UK)	
* 6	A-4356-839-A	MIC BOARD, COMPLETE (UK)	
* 7	4-932-810-11	CUSHION (FL)	
* 8	4-944-514-01	HOLDER (FL TUBE)	
* 9	A-4356-834-A	PANEL BOARD, COMPLETE (AEP)	
* 9	A-4356-837-A	PANEL BOARD, COMPLETE (UK)	
* 9	A-4356-845-A	PANEL BOARD, COMPLETE (EE)	
* 9	A-4356-847-A	PANEL BOARD, COMPLETE (E, EA, AUS, JE)	
* 10	1-646-525-11	VOL BOARD	
11	1-696-887-11	WIRE (FLAT TYPE) (32 CORE)	
* 12	4-956-194-01	CASE	
13	3-363-099-01	SCREW (CASE 3 TP2)	
14	4-951-620-01	SCREW (2.6X8), +BVTP	
FL301	1-517-149-11	INDICATOR TUBE, FLUORESCENT	
RV180	1-223-295-11	RES, VAR, CARBON 10K/100K/100K (VOLUME)	

4-2. CHASSIS SECTION



E, EA, JE MODEL
53
F902
53
F903, 904
F905
53
#1
F901
#1
54
56
#2
AC1
#4
51
T901
61
not supplied
#2
not supplied
#2
57
not supplied
#1
58
#3
#3
#3
59
60
#1
not supplied

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
* 51	1-646-524-11	TRANSFORMER BOARD	
* 53	1-533-213-31	HOLDER, FUSE	
* 54	1-646-523-11	RELAY BOARD	
* 56	1-647-596-11	SUR BOARD	
* 57	A-4356-836-A	AMPLIFIER BOARD, COMPLETE (AEP, EE)	
* 57	A-4356-842-A	AMPLIFIER BOARD, COMPLETE (UK)	
* 57	A-4356-849-A	AMPLIFIER BOARD, COMPLETE (E, EA, AUS, JE)	
* 58	4-956-223-11	PANEL, BACK (AEP, UK, EE)	
* 58	4-956-223-21	PANEL, BACK (E, EA, AUS, JE)	
* 59	A-4356-835-A	MAIN BOARD, COMPLETE (AEP)	
* 59	A-4356-841-A	MAIN BOARD, COMPLETE (UK)	
* 59	A-4356-846-A	MAIN BOARD, COMPLETE (EE)	
* 59	A-4356-848-A	MAIN BOARD, COMPLETE (E, EA, AUS, JE)	
60	4-930-336-11	FOOT (FELT)	
* 61	3-350-857-01	HOLDER (A), PCB	
⚠AC1	1-526-930-11	INLET, AC (~AC IN) (E, JE)	
⚠AC1	1-526-931-11	INLET, AC (~AC IN) (EXCEPT E, JE)	
⚠F901	1-532-285-00	FUSE (T2A)	
⚠F902	1-532-285-00	FUSE (T2A) (E, EA, JE)	
⚠F903	1-532-286-00	FUSE (T2.5A)	
⚠F904	1-532-286-00	FUSE (T2.5A)	
⚠F905	1-532-286-00	FUSE (T2.5A)	
⚠T901	1-423-455-11	TRANSFORMER, POWER (E, EA, AUS, JE)	
⚠T901	1-423-456-11	TRANSFORMER, POWER (AEP, EE)	
⚠T901	1-423-457-11	TRANSFORMER, POWER (UK)	

MAIN

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- EE : East European Model
- EA : Saudi Arabia Model
- AUS : Australian Model
- JE : Tourist Model

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- –XX, –X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example :
  uA...: µA..., uPA...: µPA...,
  uPB...: µPB..., uPC...: µPC...,
  uPD...: µPD...
- CAPACITORS
  uF : µF
- COILS
  uH : µH

Ref. No.	Part No.	Description				Remarks
*	A-4356-835-A	MAIN BOARD, COMPLETE (AEP)				
*	A-4356-841-A	MAIN BOARD, COMPLETE (UK)				
*	A-4356-846-A	MAIN BOARD, COMPLETE (EE)				
*	A-4356-848-A	MAIN BOARD, COMPLETE (E, EA, AUS, JE)				
		********************				
		< CAPACITOR >				
C1	1-124-907-11	ELECT	10uF	20%	50V	
C2	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C3	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C5	1-136-153-00	FILM	0.01uF	5%	50V	(AEP, UK, EE)
C5	1-164-159-11	CERAMIC	0.1uF		50V	(E, EA, AUS, JE)
C6	1-164-159-11	CERAMIC	0.1uF		50V	
C8	1-161-379-00	CERAMIC	0.01uF	20%	25V	(AEP, UK, EE)
C8	1-164-159-11	CERAMIC	0.1uF		50V	(E, EA, AUS, JE)
C9	1-130-474-00	MYLAR	0.0018uF	5%	50V	(AEP, UK, EE)
C10	1-161-374-11	CERAMIC	0.0015uF	20%	50V	(AEP, UK, EE)
C12	1-136-162-00	FILM	0.056uF	5%	50V	(E, EA, AUS, JE)
C14	1-162-195-31	CERAMIC	4.7PF	10%	50V	(E, EA, AUS, JE)
C17	1-164-159-11	CERAMIC	0.1uF		50V	(E, EA, AUS, JE)
C18	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C21	1-164-056-11	CERAMIC	27PF	5%	50V	
C22	1-164-056-11	CERAMIC	27PF	5%	50V	
C23	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C24	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C25	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C26	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C27	1-124-907-11	ELECT	10uF	20%	50V	
C28	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C29	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C30	1-124-477-11	ELECT	47uF	20%	25V	
C31	1-124-925-11	ELECT	2.2uF	20%	100V	
C32	1-136-153-00	FILM	0.01uF	5%	50V	
C33	1-124-463-00	ELECT	0.1uF	20%	50V	
C34	1-124-902-00	ELECT	0.47uF	20%	50V	(AEP, UK, EE)
C35	1-136-157-00	FILM	0.022uF	5%	50V	(AEP, UK, EE)
C36	1-136-157-00	FILM	0.022uF	5%	50V	(AEP, UK, EE)
C51	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C52	1-123-382-00	ELECT	3.3uF	20%	100V	
C53	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C54	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C55	1-162-211-31	CERAMIC	33PF	5%	50V	
C57	1-124-903-11	ELECT	1uF	20%	50V	
C58	1-124-903-11	ELECT	1uF	20%	50V	
C59	1-124-903-11	ELECT	1uF	20%	50V	
C60	1-124-463-00	ELECT	0.1uF	20%	50V	
C61	1-136-154-00	FILM	0.012uF	5%	50V	
C62	1-136-154-00	FILM	0.012uF	5%	50V	
C63	1-124-903-11	ELECT	1uF	20%	50V	
C64	1-124-903-11	ELECT	1uF	20%	50V	
C65	1-124-903-11	ELECT	1uF	20%	50V	
C66	1-124-903-11	ELECT	1uF	20%	50V	
C67	1-161-375-00	CERAMIC	0.0022uF	20%	50V	
C68	1-161-375-00	CERAMIC	0.0022uF	20%	50V	
C69	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C70	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C71	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C72	1-124-907-11	ELECT	10uF	20%	50V	
C73	1-124-477-11	ELECT	47uF	20%	25V	
C74	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C75	1-124-907-11	ELECT	10uF	20%	50V	
C76	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C77	1-162-282-31	CERAMIC	100PF	10%	50V	
C78	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C79	1-124-907-11	ELECT	10uF	20%	50V	
C80	1-124-472-11	ELECT	470uF	20%	10V	
C81	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C82	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C83	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C101	1-124-925-11	ELECT	2.2uF	20%	100V	(AEP, UK, EE)
C102	1-162-282-31	CERAMIC	100PF	10%	50V	(AEP, UK, EE)
C103	1-162-219-31	CERAMIC	68PF	5%	50V	(AEP, UK, EE)
C104	1-124-477-11	ELECT	47uF	20%	25V	(AEP, UK, EE)
C105	1-130-473-00	MYLAR	0.0015uF	5%	50V	(AEP, UK, EE)
C106	1-130-480-00	MYLAR	0.0056uF	5%	50V	(AEP, UK, EE)
C107	1-124-252-00	ELECT	0.33uF	20%	50V	(AEP, UK, EE)

Ref. No.	Part No.	Description	Remarks
C108	1-124-443-00	ELECT 100uF 20% 10V	(AEP, UK, EE)
C120	1-124-927-11	ELECT 4.7uF 20% 100V	
C121	1-162-282-31	CERAMIC 100PF 10% 50V	
C122	1-162-282-31	CERAMIC 100PF 10% 50V	
C151	1-124-925-11	ELECT 2.2uF 20% 100V	(AEP, UK, EE)
C152	1-162-282-31	CERAMIC 100PF 10% 50V	(AEP, UK, EE)
C153	1-162-219-31	CERAMIC 68PF 5% 50V	(AEP, UK, EE)
C154	1-124-477-11	ELECT 47uF 20% 25V	(AEP, UK, EE)
C155	1-130-473-00	MYLAR 0.0015uF 5% 50V	(AEP, UK, EE)
C156	1-130-480-00	MYLAR 0.0056uF 5% 50V	(AEP, UK, EE)
C157	1-124-252-00	ELECT 0.33uF 20% 50V	(AEP, UK, EE)
C158	1-124-443-00	ELECT 100uF 20% 10V	(AEP, UK, EE)
C190	1-164-159-11	CERAMIC 0.1uF 50V	
C191	1-161-329-00	CERAMIC 0.0068uF 30% 16V	
C195	1-124-927-11	ELECT 4.7uF 20% 100V	
C220	1-124-927-11	ELECT 4.7uF 20% 100V	
C221	1-162-282-31	CERAMIC 100PF 10% 50V	
C222	1-162-282-31	CERAMIC 100PF 10% 50V	
C290	1-164-159-11	CERAMIC 0.1uF 50V	
C501	1-162-286-31	CERAMIC 220PF 10% 50V	
C502	1-162-286-31	CERAMIC 220PF 10% 50V	
C503	1-162-286-31	CERAMIC 220PF 10% 50V	
C530	1-124-916-11	ELECT 22uF 20% 50V	
C551	1-162-286-31	CERAMIC 220PF 10% 50V	
C552	1-162-286-31	CERAMIC 220PF 10% 50V	
C553	1-162-286-31	CERAMIC 220PF 10% 50V	
		< FILTER >	
CF1	1-527-968-11	FILTER, CERAMIC	
CF51	1-527-968-11	FILTER, CERAMIC	
		< CONNECTOR >	
CN100	1-568-846-11	SOCKET, CONNECTOR 32P	
* CN101	1-569-624-11	SOCKET, CONNECTOR 17P	
* CN102	1-565-561-11	PIN, CONNECTOR 3P	
CNP101	1-750-260-12	PIN, CONNECTOR (PC BOARD) 13P	
CNP102	1-750-260-12	PIN, CONNECTOR (PC BOARD) 13P	
		< VARIABLE CAPACITOR >	
CV1	1-141-227-00	CAP, TRIMMER 20PF	(E, EA, AUS, JE)
CV2	1-141-227-00	CAP, TRIMMER 20PF	(E, EA, AUS, JE)
		< DIODE >	
D1	8-719-976-30	DIODE KV1560N	(E, EA, AUS, JE)
D51	8-719-987-63	DIODE 1N4148M	
D101	8-719-987-63	DIODE 1N4148M	
D201	8-719-987-63	DIODE 1N4148M	
		< FRONTEND >	
FE1	1-465-673-11	FRONT END (2 BAND) (FM)	(EXCEPT EE)

Ref. No.	Part No.	Description	Remarks
FE1	1-465-396-11	FRONT END (3 GANG) (FM)	(EE)
FE2	1-236-462-11	ENCAPSULATED COMPONENT (MW)	(AEP, UK, EE)
FE2	1-236-777-11	ENCAPSULATED COMPONENT (MW)	(E, EA, AUS, JE)
FE3	1-236-463-11	ENCAPSULATED COMPONENT (LW)	(AEP, UK, EE)
		< JACK >	
HDP01	1-562-837-21	JACK (HEADPHONES)	
		< IC >	
IC21	8-759-820-91	IC LC7218	
IC51	8-759-821-45	IC LA1851N	
IC101	8-759-634-51	IC M5218AP	(AEP, UK, EE)
IC103	8-759-000-47	IC MC14051BCP	
IC120	8-759-000-49	IC MC4066BCP	
IC125	8-759-634-51	IC M5218AP	
IC153	8-759-000-47	IC MC14051BCP	
IC190	8-759-634-51	IC M5218AP	
		< IFT >	
IFT51	1-404-807-11	TRANSFORMER, DISCRIMINATOR (FM NULL)	
IFT52	1-404-853-11	TRANSFORMER, IF(CERAMIC FILTER) (AM IF)	
		< JACK >	
J100	1-565-320-61	JACK, PIN 6P (MD/DAT IN/OUT, PHONO:AEP, UK, EE, VIDEO/AUX:E, EA, AUS, JE)	
		< COIL >	
L1	1-408-425-00	INDUCTOR 220uH	(AEP, UK, EE)
L51	1-408-399-00	INDUCTOR 1.5uH	
L83	1-410-489-11	INDUCTOR 390uH	
		< FILTER >	
LPF51	1-235-164-00	FILTER, LOW-PASS	
LPF52	1-235-164-00	FILTER, LOW-PASS	
		< TRANSISTOR >	
Q1	8-729-620-19	TRANSISTOR 2SC2724-CD	
Q2	8-729-900-80	TRANSISTOR DTC114ES	
Q3	8-729-900-61	TRANSISTOR DTA114ES	
Q4	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q5	8-729-900-80	TRANSISTOR DTC114ES	
Q6	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q7	8-729-900-80	TRANSISTOR DTC114ES	
Q8	8-729-900-80	TRANSISTOR DTC114ES	
Q22	8-729-202-67	FET 2SK246-GR3	
Q23	8-729-201-84	TRANSISTOR 2SC3112-B	
Q24	8-729-202-67	FET 2SK246-GR3	(AEP, UK, EE)
Q25	8-729-201-84	TRANSISTOR 2SC3112-B	(AEP, UK, EE)
Q51	8-729-620-05	TRANSISTOR 2SC2603-EF	

MAIN

Ref. No.	Part No.	Description				Remarks
Q52	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q53	8-729-900-80	TRANSISTOR	DTC114ES			
Q120	8-729-900-63	TRANSISTOR	DTA124ES			
Q121	8-729-900-63	TRANSISTOR	DTA124ES			
		< RESISTOR >				
R1	1-249-411-11	CARBON	330	5%	1/4W	
R2	1-249-411-11	CARBON	330	5%	1/4W	
R3	1-247-891-00	CARBON	330K	5%	1/4W	
R4	1-249-411-11	CARBON	330	5%	1/4W	
R7	1-249-405-11	CARBON	100	5%	1/4W	
R8	1-249-429-11	CARBON	10K	5%	1/4W	
R9	1-249-437-11	CARBON	47K	5%	1/4W	
R10	1-249-441-11	CARBON	100K	5%	1/4W	
R11	1-249-425-11	CARBON	4.7K	5%	1/4W	
R12	1-249-429-11	CARBON	10K	5%	1/4W	
R13	1-249-437-11	CARBON	47K	5%	1/4W	(AEP, UK, EE)
R13	1-247-903-00	CARBON	1M	5%	1/4W	(E, EA, AUS, JE)
R14	1-249-433-11	CARBON	22K	5%	1/4W	(AEP, UK, EE)
R14	1-249-429-11	CARBON	10K	5%	1/4W	(E, EA, AUS, JE)
R15	1-247-903-00	CARBON	1M	5%	1/4W	(AEP, UK, EE)
R16	1-249-429-11	CARBON	10K	5%	1/4W	
R19	1-249-429-11	CARBON	10K	5%	1/4W	
R20	1-249-429-11	CARBON	10K	5%	1/4W	
R21	1-249-417-11	CARBON	1K	5%	1/4W	
R22	1-249-417-11	CARBON	1K	5%	1/4W	
R23	1-249-417-11	CARBON	1K	5%	1/4W	
R24	1-249-417-11	CARBON	1K	5%	1/4W	
R25	1-249-425-11	CARBON	4.7K	5%	1/4W	
R26	1-249-417-11	CARBON	1K	5%	1/4W	
R27	1-249-429-11	CARBON	10K	5%	1/4W	
R28	1-249-405-11	CARBON	100	5%	1/4W	
R29	1-249-405-11	CARBON	100	5%	1/4W	
R30	1-249-423-11	CARBON	3.3K	5%	1/4W	
R31	1-249-414-11	CARBON	560	5%	1/4W	
R32	1-249-417-11	CARBON	1K	5%	1/4W	
R33	1-249-410-11	CARBON	270	5%	1/4W	
R34	1-249-425-11	CARBON	4.7K	5%	1/4W	
R35	1-249-421-11	CARBON	2.2K	5%	1/4W	
R36	1-249-425-11	CARBON	4.7K	5%	1/4W	
R37	1-249-425-11	CARBON	4.7K	5%	1/4W	
R38	1-249-405-11	CARBON	100	5%	1/4W	
R39	1-249-423-11	CARBON	3.3K	5%	1/4W	(AEP, UK, EE)
R40	1-249-414-11	CARBON	560	5%	1/4W	(AEP, UK, EE)
R41	1-249-417-11	CARBON	1K	5%	1/4W	(AEP, UK, EE)
R42	1-249-410-11	CARBON	270	5%	1/4W	(AEP, UK, EE)
R43	1-249-433-11	CARBON	22K	5%	1/4W	(AEP, UK, EE)
R44	1-249-421-11	CARBON	2.2K	5%	1/4W	(AEP, UK, EE)
R45	1-249-425-11	CARBON	4.7K	5%	1/4W	(AEP, UK, EE)
R46	1-249-425-11	CARBON	4.7K	5%	1/4W	(AEP, UK, EE)

Ref. No.	Part No.	Description				Remarks
R51	1-249-417-11	CARBON	1K	5%	1/4W	
R52	1-249-433-11	CARBON	22K	5%	1/4W	
R53	1-249-435-11	CARBON	33K	5%	1/4W	
R54	1-249-428-11	CARBON	8.2K	5%	1/4W	
R55	1-249-430-11	CARBON	12K	5%	1/4W	
R57	1-249-429-11	CARBON	10K	5%	1/4W	
R58	1-247-848-11	CARBON	5.1K	5%	1/4W	
R59	1-249-425-11	CARBON	4.7K	5%	1/4W	
R60	1-249-425-11	CARBON	4.7K	5%	1/4W	
R61	1-247-891-00	CARBON	330K	5%	1/4W	
R62	1-247-891-00	CARBON	330K	5%	1/4W	
R63	1-249-417-11	CARBON	1K	5%	1/4W	
R64	1-249-417-11	CARBON	1K	5%	1/4W	
R65	1-249-429-11	CARBON	10K	5%	1/4W	
R66	1-249-429-11	CARBON	10K	5%	1/4W	
R67	1-249-421-11	CARBON	2.2K	5%	1/4W	
R68	1-249-421-11	CARBON	2.2K	5%	1/4W	
R69	1-249-404-00	CARBON	82	5%	1/4W	
R70	1-249-409-11	CARBON	220	5%	1/4W	
R71	1-249-437-11	CARBON	47K	5%	1/4W	
R72	1-249-429-11	CARBON	10K	5%	1/4W	
R73	1-249-429-11	CARBON	10K	5%	1/4W	
R74	1-249-399-11	CARBON	33	5%	1/4W	
R79	1-249-417-11	CARBON	1K	5%	1/4W	
R101	1-249-417-11	CARBON	1K	5%	1/4W	(AEP, UK, EE)
R102	1-249-437-11	CARBON	47K	5%	1/4W	
R103	1-247-897-11	CARBON	560K	5%	1/4W	(AEP, UK, EE)
R104	1-249-416-11	CARBON	820	5%	1/4W	(AEP, UK, EE)
R105	1-249-437-11	CARBON	47K	5%	1/4W	(AEP, UK, EE)
R106	1-247-897-11	CARBON	560K	5%	1/4W	(AEP, UK, EE)
R107	1-249-441-11	CARBON	100K	5%	1/4W	(AEP, UK, EE)
R108	1-249-409-11	CARBON	220	5%	1/4W	(AEP, UK, EE)
R109	1-249-409-11	CARBON	220	5%	1/4W	(AEP, UK, EE)
R113	1-249-422-11	CARBON	2.7K	5%	1/4W	
R114	1-249-437-11	CARBON	47K	5%	1/4W	
R115	1-249-411-11	CARBON	330	5%	1/4W	
R116	1-249-429-11	CARBON	10K	5%	1/4W	
R120	1-249-433-11	CARBON	22K	5%	1/4W	
R121	1-249-433-11	CARBON	22K	5%	1/4W	
R122	1-249-433-11	CARBON	22K	5%	1/4W	
R123	1-249-433-11	CARBON	22K	5%	1/4W	
R124	1-249-433-11	CARBON	22K	5%	1/4W	
R151	1-249-417-11	CARBON	1K	5%	1/4W	(AEP, UK, EE)
R152	1-249-437-11	CARBON	47K	5%	1/4W	
R153	1-247-897-11	CARBON	560K	5%	1/4W	(AEP, UK, EE)
R154	1-249-416-11	CARBON	820	5%	1/4W	(AEP, UK, EE)
R155	1-249-437-11	CARBON	47K	5%	1/4W	(AEP, UK, EE)
R156	1-247-897-11	CARBON	560K	5%	1/4W	(AEP, UK, EE)
R157	1-249-441-11	CARBON	100K	5%	1/4W	(AEP, UK, EE)
R158	1-249-409-11	CARBON	220	5%	1/4W	(AEP, UK, EE)

Ref. No.	Part No.	Description				Remarks
R159	1-249-409-11	CARBON	220	5%	1/4W	(AEP, UK, EE)
R190	1-249-433-11	CARBON	22K	5%	1/4W	
R191	1-249-429-11	CARBON	10K	5%	1/4W	
R195	1-249-429-11	CARBON	10K	5%	1/4W	
R213	1-249-422-11	CARBON	2.7K	5%	1/4W	
R214	1-249-437-11	CARBON	47K	5%	1/4W	
R215	1-249-411-11	CARBON	330	5%	1/4W	
R216	1-249-429-11	CARBON	10K	5%	1/4W	
R220	1-249-433-11	CARBON	22K	5%	1/4W	
R221	1-249-433-11	CARBON	22K	5%	1/4W	
R222	1-249-433-11	CARBON	22K	5%	1/4W	
R290	1-249-433-11	CARBON	22K	5%	1/4W	
R501	1-249-417-11	CARBON	1K	5%	1/4W	(AEP, UK, EE)
R501	1-249-422-11	CARBON	2.7K	5%	1/4W	(E, EA, AUS, JE)
R551	1-249-417-11	CARBON	1K	5%	1/4W	(AEP, UK, EE)
R551	1-249-422-11	CARBON	2.7K	5%	1/4W	(E, EA, AUS, JE)
R651	1-247-747-11	CARBON	470	5%	1/2W	
R681	1-247-747-11	CARBON	470	5%	1/2W	
R701	1-249-417-11	CARBON	1K	5%	1/4W	
R751	1-249-417-11	CARBON	1K	5%	1/4W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV51	1-238-601-11	RES, ADJ, CARBON 22K (AM TUNING LEVEL)
RV52	1-238-601-11	RES, ADJ, CARBON 22K (FM TUNING LEVEL)

< COIL >

Ref. No.	Part No.	Description
T1	1-402-424-11	COIL (ANT, SW3) (E, EA, AUS, JE)
T2	1-406-346-11	COIL (OSC, SW3) (E, EA, AUS, JE)

< TERMINAL >

Ref. No.	Part No.	Description
* TB701	1-537-138-31	TERMINAL BOARD (ANTENNA) (AEP, UK, EE)
* TB701	1-537-238-21	TERMINAL BOARD (ANTENNA) (E, EA, AUS, JE)

< TEST PIN >

Ref. No.	Part No.	Description
* TP51	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P

< VIBRATOR >

Ref. No.	Part No.	Description
X21	1-577-126-21	VIBRATOR, CRYSTAL (7.2MHz)
X51	1-577-075-11	OSCILLATOR, CERAMIC (456kHz)

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Ref. No.	Part No.	Description
*	A-4356-836-A	AMPLIFIER BOARD, COMPLETE (AEP, EE)
*	A-4356-842-A	AMPLIFIER BOARD, COMPLETE (UK)
*	A-4356-849-A	AMPLIFIER BOARD, COMPLETE (E, EA, AUS, JE)

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< CAPACITOR >

Ref. No.	Part No.	Description				Remarks
C601	1-124-927-11	ELECT	4.7uF	20%	100V	
C602	1-162-286-31	CERAMIC	220PF	10%	50V	
C603	1-124-443-00	ELECT	100uF	20%	10V	
C604	1-162-286-31	CERAMIC	220PF	10%	50V	
C606	1-124-910-11	ELECT	47uF	20%	50V	
C607	1-124-122-11	ELECT	100uF	20%	50V	
C608	1-124-122-11	ELECT	100uF	20%	50V	
C609	1-124-916-11	ELECT	22uF	20%	63V	
C610	1-136-163-00	FILM	0.068uF	5%	50V	
C613	1-124-126-00	ELECT	47uF	20%	10V	
C614	1-126-176-11	ELECT	220uF	20%	10V	
C615	1-126-176-11	ELECT	220uF	20%	10V	
C616	1-124-916-11	ELECT	22uF	20%	63V	
C618	1-162-193-31	CERAMIC	3.3PF	10%	50V	
C619	1-136-161-00	FILM	0.047uF	5%	50V	
C620	1-136-163-00	FILM	0.068uF	5%	50V	
C623	1-124-927-11	ELECT	4.7uF	20%	100V	
C651	1-124-927-11	ELECT	4.7uF	20%	100V	
C652	1-162-286-31	CERAMIC	220PF	10%	50V	
C653	1-124-443-00	ELECT	100uF	20%	10V	
C654	1-162-286-31	CERAMIC	220PF	10%	50V	
C656	1-124-910-11	ELECT	47uF	20%	50V	
C660	1-136-163-00	FILM	0.068uF	5%	50V	
C666	1-124-916-11	ELECT	22uF	20%	63V	
C668	1-162-193-31	CERAMIC	3.3PF	10%	50V	
C670	1-136-163-00	FILM	0.068uF	5%	50V	
C900	1-102-394-11	CERAMIC	0.01uF		250V	
C901	1-126-224-11	ELECT	4700uF	20%	42V	(AEP, UK, EE)
C901	1-126-138-11	ELECT	4700uF	20%	50V	(E, EA, AUS, JE)
C902	1-126-224-11	ELECT	4700uF	20%	42V	(AEP, UK, EE)
C902	1-126-138-11	ELECT	4700uF	20%	50V	(E, EA, AUS, JE)
C903	1-102-394-11	CERAMIC	0.01uF		250V	
C904	1-124-563-11	ELECT	2200uF	20%	25V	
C905	1-124-563-11	ELECT	2200uF	20%	25V	
C911	1-124-925-11	ELECT	2.2uF	20%	100V	
C912	1-124-472-11	ELECT	470uF	20%	10V	
C913	1-124-472-11	ELECT	470uF	20%	10V	
C914	1-124-907-11	ELECT	10uF	20%	50V	
C924	1-124-557-11	ELECT	1000uF	20%	25V	
C925	1-164-159-11	CERAMIC	0.1uF		50V	
C926	1-124-477-11	ELECT	47uF	20%	25V	
C927	1-164-159-11	CERAMIC	0.1uF		50V	
C928	1-126-101-11	ELECT	100uF	20%	16V	
C930	1-124-478-11	ELECT	100uF	20%	25V	
C931	1-124-478-11	ELECT	100uF	20%	25V	
C932	1-124-572-11	ELECT	100uF	20%	63V	
C933	1-124-910-11	ELECT	47uF	20%	50V	
C934	1-124-910-11	ELECT	47uF	20%	50V	
C940	1-124-907-11	ELECT	10uF	20%	50V	
C941	1-124-443-00	ELECT	100uF	20%	10V	
C999	1-124-477-11	ELECT	47uF	20%	25V	

AMPLIFIER

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CN601	1-750-261-11	HOUSING, CONNECTOR (PC BOARD) 13P	
CN602	1-750-261-11	HOUSING, CONNECTOR (PC BOARD) 13P	
CN603	1-569-490-11	SOCKET, CONNECTOR 3P	
CN900	1-750-262-11	HOUSING, CONNECTOR 11P	
		< DIODE >	
D601	8-719-987-63	DIODE 1N4148M	
D602	8-719-987-63	DIODE 1N4148M	
D604	8-719-987-63	DIODE 1N4148M	
D605	8-719-987-63	DIODE 1N4148M	
D651	8-719-987-63	DIODE 1N4148M	
D900	8-719-302-38	DIODE RBV602-01	
D901	8-719-200-82	DIODE 11ES2	
D902	8-719-200-82	DIODE 11ES2	
D903	8-719-200-82	DIODE 11ES2	
D904	8-719-200-82	DIODE 11ES2	
D905	8-719-987-63	DIODE 1N4148M	
D906	8-719-987-63	DIODE 1N4148M	
D920	8-719-200-82	DIODE 11ES2	
D921	8-719-001-67	DIODE UZL-12L3	
D924	8-719-934-23	DIODE HZS30-3L	
D930	8-719-200-82	DIODE 11ES2	
D931	8-719-200-82	DIODE 11ES2	
D940	8-719-933-36	DIODE HZS6B1L	
		< IC >	
⚠IC601	8-749-900-96	IC STK4142MK2 (AEP, UK, EE)	
⚠IC601	8-749-920-22	IC STK4172MK2K (E, EA, AUS, JE)	
IC602	8-759-111-68	IC uPC1237HA	
IC902	8-759-602-66	IC M5230L-A	
		< IC LINK >	
⚠ICP901	1-532-838-11	LINK, IC (800mA)	
⚠ICP902	1-532-838-11	LINK, IC (800mA)	
⚠ICP903	1-532-834-21	LINK, IC (315mA)	
		< COIL >	
L601	1-420-872-00	COIL, AIR CORE 1.9uH	
L651	1-420-872-00	COIL, AIR CORE 1.9uH	
		< TRANSISTOR >	
Q601	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q602	8-729-900-63	TRANSISTOR DTA124ES	
Q603	8-729-806-24	TRANSISTOR 2SC3899	
Q651	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q903	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q904	8-729-209-15	TRANSISTOR 2SD2012	
Q905	8-729-900-36	TRANSISTOR DTC124ES	

Ref. No.	Part No.	Description	Remarks
Q920	8-729-224-62	FET 2SK246-GR	
Q921	8-729-209-15	TRANSISTOR 2SD2012	
Q922	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q923	8-729-900-36	TRANSISTOR DTC124ES	
Q924	8-729-900-89	TRANSISTOR DTC144ES	
Q930	8-729-209-15	TRANSISTOR 2SD2012	
Q940	8-729-209-15	TRANSISTOR 2SD2012	
		< RESISTOR >	
R601	1-249-417-11	CARBON 1K 5% 1/4W	
R602	1-249-438-11	CARBON 56K 5% 1/4W	
R603	1-249-417-11	CARBON 1K 5% 1/4W	
R604	1-249-438-11	CARBON 56K 5% 1/4W	
R605	1-247-756-11	CARBON 2.2K 5% 1/2W (AEP, UK, EE)	
R605	1-247-758-11	CARBON 3.3K 5% 1/2W(E, EA, AUS, JE)	
R606	1-247-756-11	CARBON 2.2K 5% 1/2W (AEP, UK, EE)	
R606	1-247-758-11	CARBON 3.3K 5% 1/2W(E, EA, AUS, JE)	
⚠R607	1-212-881-11	FUSIBLE 100 5% 1/4W F	
⚠R608	1-212-881-11	FUSIBLE 100 5% 1/4W F	
⚠R609	1-217-151-00	RES, METAL PLATE 0.22 2W	
R610	1-247-752-11	CARBON 1K 5% 1/2W	
R611	1-247-752-11	CARBON 1K 5% 1/2W	
R612	1-247-727-11	CARBON 10 5% 1/2W	
R613	1-249-417-11	CARBON 1K 5% 1/4W	
R614	1-249-431-11	CARBON 15K 5% 1/4W	
R615	1-249-441-11	CARBON 100K 5% 1/4W	
R616	1-249-438-11	CARBON 56K 5% 1/4W	
⚠R617	1-215-867-00	METAL OXIDE 470 5% 1W F	
R619	1-249-439-11	CARBON 68K 5% 1/4W	
R620	1-249-441-11	CARBON 100K 5% 1/4W	
R621	1-249-429-11	CARBON 10K 5% 1/4W	
R622	1-249-425-11	CARBON 4.7K 5% 1/4W	
R623	1-249-405-11	CARBON 100 5% 1/4W	
R630	1-247-727-11	CARBON 10 5% 1/2W	
R636	1-247-764-11	CARBON 10K 5% 1/2W	
R651	1-249-417-11	CARBON 1K 5% 1/4W	
R652	1-249-438-11	CARBON 56K 5% 1/4W	
R653	1-249-417-11	CARBON 1K 5% 1/4W	
R654	1-249-438-11	CARBON 56K 5% 1/4W	
R655	1-247-756-11	CARBON 2.2K 5% 1/2W (AEP, UK, EE)	
R655	1-247-758-11	CARBON 3.3K 5% 1/2W(E, EA, AUS, JE)	
R656	1-247-756-11	CARBON 2.2K 5% 1/2W (AEP, UK, EE)	
R656	1-247-758-11	CARBON 3.3K 5% 1/2W(E, EA, AUS, JE)	
⚠R659	1-217-151-00	RES, METAL PLATE 0.22 2W	
R662	1-247-727-11	CARBON 10 5% 1/2W	
R663	1-249-417-11	CARBON 1K 5% 1/4W	
R664	1-249-431-11	CARBON 15K 5% 1/4W	
R665	1-249-441-11	CARBON 100K 5% 1/4W	
R666	1-249-437-11	CARBON 47K 5% 1/4W	
R680	1-247-727-11	CARBON 10 5% 1/2W	

**The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.**

Ref. No.	Part No.	Description	Remarks
R903	1-249-409-11	CARBON 220 5% 1/4W	
R904	1-249-409-11	CARBON 220 5% 1/4W	
R905	1-247-903-00	CARBON 1M 5% 1/4W	
R906	1-249-414-11	CARBON 560 5% 1/4W	
R907	1-249-414-11	CARBON 560 5% 1/4W	
R908	1-247-852-11	CARBON 7.5K 5% 1/4W	
R909	1-247-852-11	CARBON 7.5K 5% 1/4W	
R910	1-249-429-11	CARBON 10K 5% 1/4W	
R911	1-249-423-11	CARBON 3.3K 5% 1/4W	
R912	1-249-421-11	CARBON 2.2K 5% 1/4W	
R921	1-249-423-11	CARBON 3.3K 5% 1/4W	
R922	1-249-425-11	CARBON 4.7K 5% 1/4W	
R923	1-249-425-11	CARBON 4.7K 5% 1/4W	
R924	1-249-435-11	CARBON 33K 5% 1/4W	
R940	1-249-423-11	CARBON 3.3K 5% 1/4W	
R942	1-249-437-11	CARBON 47K 5% 1/4W	
⚠R970	1-212-849-00	FUSIBLE 4.7 5% 1/4W	F
R999	1-249-421-11	CARBON 2.2K 5% 1/4W	

< RELAY >

Ref. No.	Part No.	Description	Remarks
RY601	1-515-533-11	RELAY (SPEAKER)	

< TERMINAL >

Ref. No.	Part No.	Description	Remarks
TB601	1-537-240-11	TERMINAL BOARD (SPEAKER)	

****

Ref. No.	Part No.	Description	Remarks
*	1-646-523-11	RELAY BOARD	

****

Ref. No.	Part No.	Description	Remarks
*	1-533-213-31	HOLDER, FUSE	

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
* CN901	1-695-893-11	HOUSING, CONNECTOR (PC BOARD) 11P	
* CNP901	1-695-894-12	PIN, CONNECTOR (PC BOARD) 11P	

****

Ref. No.	Part No.	Description	Remarks
*	1-646-524-11	TRANSFORMER BOARD	

****

Ref. No.	Part No.	Description	Remarks
*	1-533-213-31	HOLDER, FUSE	

< AC INLET >

Ref. No.	Part No.	Description	Remarks
⚠AC1	1-526-931-11	INLET, AC (~AC IN) (EXCEPT E, JE)	
⚠AC1	1-526-930-11	INLET, AC (~AC IN) (E, JE)	

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
* CNP900	1-695-894-12	PIN, CONNECTOR (PC BOARD) 11P	

< SWITCH >

Ref. No.	Part No.	Description	Remarks
⚠S901	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR) (E, EA, JE)	

****

Ref. No.	Part No.	Description	Remarks
*	1-647-596-11	SUR BOARD	

****

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C631	1-136-165-00	FILM 0.1uF 5% 50V	(AEP, UK, EE)

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
* CNP603	1-569-499-11	PIN, CONNECTOR 3P	

< JACK >

Ref. No.	Part No.	Description	Remarks
J602	1-565-319-71	JACK, PIN 2P(SURROUND SPEAKER)	
J603	1-565-406-21	JACK, PIN 1P(SUPER WOOFER OUT)	(AEP, UK, EE)

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R632	1-249-421-11	CARBON 2.2K 5% 1/4W	(AEP, UK, EE)
R633	1-249-413-11	CARBON 470 5% 1/4W	(AEP, UK, EE)
R634	1-249-421-11	CARBON 2.2K 5% 1/4W	(AEP, UK, EE)

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Ref. No.	Part No.	Description	Remarks
*	A-4356-834-A	PANEL BOARD, COMPLETE (AEP)	
*	A-4356-837-A	PANEL BOARD, COMPLETE (UK)	
*	A-4356-845-A	PANEL BOARD, COMPLETE (EE)	
*	A-4356-847-A	PANEL BOARD, COMPLETE (E, EA, AUS, JE)	

****

Ref. No.	Part No.	Description	Remarks
	1-690-880-41	LEAD (WITH CONNECTOR)	
*	4-932-810-11	CUSHION (FL)	
*	4-944-514-01	HOLDER (FL TUBE)	

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C130	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C131	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C132	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C133	1-126-163-11	ELECT 4.7uF 20% 50V	
C134	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C136	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C141	1-164-346-11	CERAMIC CHIP 1uF 16V	
C142	1-164-336-11	CERAMIC CHIP 0.33uF 25V	
C143	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C144	1-164-343-11	CERAMIC CHIP 0.056uF 10% 25V	
C145	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C146	1-163-020-00	CERAMIC CHIP 0.0082uF 10% 50V	
C147	1-164-182-11	CERAMIC CHIP 0.0033uF 10% 50V	
C151	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C152	1-162-587-91	CERAMIC CHIP 0.039uF 10% 25V	
C153	1-163-023-00	CERAMIC CHIP 0.015uF 5% 50V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

PANEL

Ref. No.	Part No.	Description			Remarks
C154	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C155	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C156	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C157	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C158	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C159	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C161	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C162	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C163	1-124-257-00	ELECT	2.2uF	20%	50V
C164	1-126-162-11	ELECT	3.3uF	20%	50V
C165	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C166	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C191	1-126-301-11	ELECT	1uF	20%	50V
C201	1-126-163-11	ELECT	4.7uF	20%	50V
C230	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C231	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C232	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C233	1-126-163-11	ELECT	4.7uF	20%	50V
C234	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C235	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C241	1-164-346-11	CERAMIC CHIP	1uF		16V
C242	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C243	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C244	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V
C245	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C246	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C247	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C251	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C252	1-162-587-91	CERAMIC CHIP	0.039uF	10%	25V
C253	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C254	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C255	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C256	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C257	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C258	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C259	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C260	1-126-162-11	ELECT	3.3uF	20%	50V
C261	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C262	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C263	1-124-257-00	ELECT	2.2uF	20%	50V
C265	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C266	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C291	1-126-301-11	ELECT	1uF	20%	50V
C300	1-164-346-11	CERAMIC CHIP	1uF		16V
C301	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C302	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C303	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C304	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C305	1-126-177-11	ELECT	100uF	20%	10V
C306	1-126-177-11	ELECT	100uF	20%	10V
C307	1-126-157-11	ELECT	10uF	20%	16V
C308	1-126-157-11	ELECT	10uF	20%	16V
C309	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C310	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C311	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C312	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C360	1-126-177-11	ELECT	100uF	20%	10V
C361	1-126-177-11	ELECT	100uF	20%	10V
C362	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C364	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C370	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C371	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C372	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C373	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C375	1-124-261-00	ELECT	10uF	20%	50V
C381	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C382	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C390	1-126-157-11	ELECT	10uF	20%	16V
C391	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C392	1-164-346-11	CERAMIC CHIP	1uF		16V
C396	1-126-157-11	ELECT	10uF	20%	16V

< CONNECTOR >

Ref. No.	Part No.	Description
CN301	1-568-874-11	SOCKET, CONNECTOR 32P
CN302	1-695-993-11	HOUSING, CONNECTOR 12P
CN306	1-695-994-11	HOUSING, CONNECTOR 5P

< DIODE >

Ref. No.	Part No.	Description	
D201	8-719-105-91	DIODE	RD5.6M-B2
D301	8-719-016-74	DIODE	1SS352
D302	8-719-016-74	DIODE	1SS352
D303	8-719-016-74	DIODE	1SS352
D304	8-719-016-74	DIODE	1SS352
D305	8-719-016-74	DIODE	1SS352
D306	8-719-016-74	DIODE	1SS352
D311	8-719-016-74	DIODE	1SS352
D312	8-719-016-74	DIODE	1SS352
D314	8-719-301-37	LED	SEL2210S-CD (KARAOKE PON)
D315	8-719-301-37	LED	SEL2210S-CD (TUNING)
D316	8-719-301-37	LED	SEL2210S-CD (PRESET)
D317	8-719-301-37	LED	SEL2210S-CD (CURSOR CONTROL ▽)
D318	8-719-301-37	LED	SEL2210S-CD (CURSOR CONTROL ▷)
D319	8-719-301-37	LED	SEL2210S-CD (CURSOR CONTROL △)
D320	8-719-301-37	LED	SEL2210S-CD (CURSOR CONTROL ◁)
D321	8-719-301-37	LED	SEL2210S-CD (DYNAMIC BASS SYSTEM FREQUENCY LOW/HIGH)
D322	8-719-301-37	LED	SEL2210S-CD (DYNAMIC BASS SYSTEM FREQUENCY ON/OFF)
D323	8-719-301-37	LED	SEL2210S-CD (TUNER)
D324	8-719-301-37	LED	SEL2210S-CD (CD)

Ref. No.	Part No.	Description	Remarks
D325	8-719-301-37	LED SEL2210S-CD (MD/DAT)	
D326	8-719-301-37	LED SEL2210S-CD (TAPE)	
D327	8-719-301-37	LED SEL2210S-CD (VIDEO:E, EA, AUS, JE; PHONO:AEP, UK, EE)	
D360	8-719-105-91	DIODE RD5.6M-B2	
D361	8-719-105-91	DIODE RD5.6M-B2	
D390	8-719-016-74	DIODE 1SS352	
D391	8-719-016-74	DIODE 1SS352	
D399	8-719-977-03	DIODE DTZ5.6B	

< FLUORESCENT INDICATOR >

Ref. No.	Part No.	Description	Remarks
FL301	1-517-149-11	INDICATOR TUBE, FLUORESCENT	

< IC >

Ref. No.	Part No.	Description	Remarks
IC130	8-759-087-18	IC M5289FP-71NC	
IC131	8-759-081-01	IC NJU7305L	
IC133	8-759-516-47	IC CD4066BCM	
IC150	8-759-636-55	IC M5218AFP	
IC160	8-759-636-55	IC M5218AFP	
IC230	8-759-087-18	IC M5289FP-71NC	
IC301	8-759-155-53	IC uPD78012-M10	
IC302	8-759-500-31	IC X24C01P	
IC303	8-749-922-36	IC GP1U50XB	
IC304	8-759-927-29	IC SN74HCU04ANS	
IC305	8-759-991-11	IC XR1091DCP	
IC306	8-759-516-41	IC CD4052BCM	
IC307	8-759-094-11	IC SN755723FT	
IC308	8-759-094-11	IC SN755723FT	
IC309	8-759-636-56	IC M66311FP	

< JUMPER RESISTOR >

Ref. No.	Part No.	Description	Remarks
JR1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR2	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR3	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR4	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR5	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR8	1-216-296-00	METAL CHIP 0 5% 1/8W	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q160	8-729-602-21	TRANSISTOR 2SC4154-F	
Q161	8-729-805-42	TRANSISTOR 2SC3859	
Q170	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q260	8-729-602-21	TRANSISTOR 2SC4154-F	
Q261	8-729-805-42	TRANSISTOR 2SC3859	
Q270	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q301	8-729-810-28	TRANSISTOR 2SC4398	
Q370	8-729-805-67	TRANSISTOR 2SA1342	
Q371	8-729-805-67	TRANSISTOR 2SA1342	
Q372	8-729-805-67	TRANSISTOR 2SA1342	
Q373	8-729-805-43	TRANSISTOR 2SC3396	
Q375	8-729-901-06	TRANSISTOR DTA144EK	
Q390	8-729-602-21	TRANSISTOR 2SC4154-F	

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R130	1-216-062-00	METAL CHIP 3.6K 5% 1/10W	
R131	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R132	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R133	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R134	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R135	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R136	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R137	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R138	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R139	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
R141	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R150	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R151	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R152	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R161	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R163	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R165	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R166	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R167	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R168	1-216-039-00	METAL CHIP 390 5% 1/10W	
R169	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R181	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R191	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R201	1-216-025-00	METAL CHIP 100 5% 1/10W	
R230	1-216-062-00	METAL CHIP 3.6K 5% 1/10W	
R231	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R232	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R233	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R234	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R235	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R236	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R237	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R238	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R239	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
R241	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R250	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R251	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R252	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R261	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R263	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R265	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R266	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R267	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R268	1-216-039-00	METAL CHIP 390 5% 1/10W	
R269	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R281	1-216-089-00	METAL CHIP 47K 5% 1/10W	

PANEL

Ref. No.	Part No.	Description	Remarks
R291	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R301	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R302	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R305	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R306	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R307	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R308	1-216-001-00	METAL CHIP 10 5% 1/10W	
R309	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R310	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R311	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R312	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R313	1-216-050-00	METAL GLAZE 1.1K 5% 1/10W	(AEP, UK)
R313	1-216-041-00	METAL CHIP 470 5% 1/10W	(E, EA, AUS, JE)
R313	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	(EE)
R314	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R315	1-216-041-00	METAL CHIP 470 5% 1/10W	
R316	1-216-041-00	METAL CHIP 470 5% 1/10W	
R317	1-216-041-00	METAL CHIP 470 5% 1/10W	
R318	1-216-041-00	METAL CHIP 470 5% 1/10W	
R320	1-216-041-00	METAL CHIP 470 5% 1/10W	
R321	1-216-041-00	METAL CHIP 470 5% 1/10W	
R322	1-216-041-00	METAL CHIP 470 5% 1/10W	
R323	1-216-041-00	METAL CHIP 470 5% 1/10W	
R324	1-216-041-00	METAL CHIP 470 5% 1/10W	
R325	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R326	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R327	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R328	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R329	1-216-041-00	METAL CHIP 470 5% 1/10W	
R330	1-216-041-00	METAL CHIP 470 5% 1/10W	
R331	1-216-045-00	METAL CHIP 680 5% 1/10W	
R332	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R333	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R334	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	(AEP, UK, EE)
R334	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(E, EA, AUS, JE)
R335	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(AEP, UK, EE)
R335	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(E, EA, AUS, JE)
R336	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(AEP, UK, EE)
R336	1-216-076-00	METAL CHIP 13K 5% 1/10W	(E, EA, AUS, JE)
R337	1-216-041-00	METAL CHIP 470 5% 1/10W	
R338	1-216-045-00	METAL CHIP 680 5% 1/10W	
R339	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R340	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R341	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R342	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R343	1-216-076-00	METAL CHIP 13K 5% 1/10W	
R344	1-216-041-00	METAL CHIP 470 5% 1/10W	
R345	1-216-045-00	METAL CHIP 680 5% 1/10W	
R346	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R347	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	

Ref. No.	Part No.	Description	Remarks
R348	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R349	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R350	1-216-041-00	METAL CHIP 470 5% 1/10W	
R351	1-216-045-00	METAL CHIP 680 5% 1/10W	
R352	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R353	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R354	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R355	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R356	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R357	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R358	1-216-049-00	METAL CHIP 1K 5% 1/10W	(AEP, UK, EE)
R359	1-216-076-00	METAL CHIP 13K 5% 1/10W	(AEP, UK, EE)
R360	1-216-017-00	METAL CHIP 47 5% 1/10W	
R361	1-216-017-00	METAL CHIP 47 5% 1/10W	
R362	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R363	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R364	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R365	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R366	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R370	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R371	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R372	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R373	1-216-025-00	METAL CHIP 100 5% 1/10W	
R375	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R376	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R383	1-216-037-00	METAL CHIP 330 5% 1/10W	
R384	1-216-037-00	METAL CHIP 330 5% 1/10W	
R385	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R386	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R387	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R388	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R391	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R392	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R393	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R394	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R395	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R399	1-216-097-00	METAL CHIP 100K 5% 1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remarks
RV160	1-223-292-11	RES, VAR, CARBON 50K/50K (DYNAMIC BASS SYSTEM LEVEL)	

< SWITCH >

Ref. No.	Part No.	Description	Remarks
S330	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)	
S331	1-554-303-21	SWITCH, TACTILE (KARAOKE PON)	
S332	1-554-303-21	SWITCH, TACTILE (DYNAMIC BASS SYSTEM FREQUENCY)	
S333	1-554-303-21	SWITCH, TACTILE (TUNER)	
S334	1-554-303-21	SWITCH, TACTILE (CD)	

Ref. No.	Part No.	Description	Remarks
S335	1-554-303-21	SWITCH, TACTILE (MD/DAT)	
S336	1-554-303-21	SWITCH, TACTILE (TAPE)	
S337	1-554-303-21	SWITCH, TACTILE (VIDEO:E, EA, AUS, JE; PHONO:AEP, UK, EE)	
S338	1-554-303-21	SWITCH, TACTILE (DISPLAY)	
S339	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)	
S340	1-554-303-21	SWITCH, TACTILE (MODE)	
S341	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S342	1-554-303-21	SWITCH, TACTILE (TIMER 1)	
S343	1-554-303-21	SWITCH, TACTILE (+)	
S344	1-554-303-21	SWITCH, TACTILE (-)	
S345	1-554-303-21	SWITCH, TACTILE (BAND)	
S346	1-554-303-21	SWITCH, TACTILE (TIMER 2)	
S347	1-554-303-21	SWITCH, TACTILE (TIMER REC)	
S348	1-554-303-21	SWITCH, TACTILE (SLEEP)	
S349	1-554-303-21	SWITCH, TACTILE (EQ)	
S350	1-554-303-21	SWITCH, TACTILE (SURROUND)	
S351	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S352	1-554-303-21	SWITCH, TACTILE (MUTING -∞)	
S353	1-554-303-21	SWITCH, TACTILE (CURSOR CONTROL ◁)	
S354	1-554-303-21	SWITCH, TACTILE (CURSOR CONTROL ▽)	
S355	1-554-303-21	SWITCH, TACTILE (CURSOR CONTROL ▷)	
S356	1-554-303-21	SWITCH, TACTILE (CURSOR CONTROL △)	
S357	1-554-303-21	SWITCH, TACTILE (DIRECT)	
S358	1-554-303-21	SWITCH, TACTILE (TPO)	
S359	1-554-303-21	SWITCH, TACTILE (MUSIC)	
		< VIBRATOR >	
X301	1-567-098-00	OSCILLATOR, CRYSTAL (32.768kHz)	
X302	1-579-600-11	VIBRATOR, CERAMIC (8.388MHz)	
**			
*	A-4356-725-A	MIC BOARD, COMPLETE (EXCEPT UK)	
*	A-4356-839-A	MIC BOARD, COMPLETE (UK)	
		*******************	
		< CAPACITOR >	
C401	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C402	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C403	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C404	1-126-163-11	ELECT 4.7uF 20% 50V	
C405	1-126-163-11	ELECT 4.7uF 20% 50V	
C406	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C407	1-124-464-11	ELECT 0.22uF 20% 50V	
C408	1-124-589-11	ELECT 47uF 20% 16V	
C409	1-124-589-11	ELECT 47uF 20% 16V	
C410	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C411	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
		< JACK >	
CNJ401	1-562-837-21	JACK (MIX MIC)	

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CNP307	1-750-001-12	PIN, CONNECTOR (PC BOARD) 5P	
		< IC >	
IC401	8-759-636-55	IC M5218AFP	
		< RESISTOR >	
R402	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R403	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R404	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R405	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R406	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R407	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R408	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R409	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R410	1-216-047-00	METAL CHIP 820 5% 1/10W	
R411	1-216-033-00	METAL CHIP 220 5% 1/10W	
R412	1-216-033-00	METAL CHIP 220 5% 1/10W	
		< VARIABLE RESISTOR >	
RV401	1-241-140-11	RES, VAR, CARBON 10K (MIC LEVEL)	
**			
*	1-646-525-11	VOL BOARD	
		*********	
		< CAPACITOR >	
C582	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C916	1-126-177-11	ELECT 100uF 20% 10V	
C917	1-126-157-11	ELECT 10uF 20% 16V	
C918	1-126-177-11	ELECT 100uF 20% 10V	
		< CONNECTOR >	
CNP303	1-695-998-12	PIN, CONNECTOR (PC BOARD) 12P	
		< DIODE >	
D916	8-719-105-91	DIODE RD5.6M-B2	
		< IC >	
IC310	8-759-820-62	IC LB1639	
		< TRANSISTOR >	
Q916	8-729-111-29	TRANSISTOR 2SD1616A-K	
		< RESISTOR >	
R583	1-216-041-00	METAL CHIP 470 5% 1/10W	
R916	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	

VOL

Ref. No.	Part No.	Description	Remarks
		< VARIABLE RESISTOR >	
RV180	1-223-295-11	RES, VAR, CARBON 10K/100K/100K (VOLUME)	
************	************	************************************	************
		MISCELLANEOUS *************	
11	1-696-887-11	WIRE (FLAT TYPE) (32 CORE)	
⚠F901	1-532-285-00	FUSE (T2A)	
⚠F902	1-532-285-00	FUSE (T2A) (E, EA, JE)	
⚠F903	1-532-286-00	FUSE (T2.5A)	
⚠F904	1-532-286-00	FUSE (T2.5A)	
⚠F905	1-532-286-00	FUSE (T2.5A)	
⚠T901	1-423-455-11	TRANSFORMER, POWER (E, EA, AUS, JE)	
⚠T901	1-423-456-11	TRANSFORMER, POWER (AEP, EE)	
⚠T901	1-423-457-11	TRANSFORMER, POWER (UK)	
************	************	************************************	************

Ref. No.	Part No.	Description	Remarks
	ACCESSORIES & PACKING MATERIALS *******************************		
*	4-956-934-01	CUSHION (FRONT)	
*	4-956-935-01	CUSHION (REAR)	
************	************	************************************	************

HARDWARE LIST

Ref. No.	Part No.	Description	Remarks
#1	7-685-871-01	SCREW +BVTT 3X6 (S)	
#2	7-685-646-79	SCREW, TAPPING	
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

9-957-650-11

Sony Corporation
Audio Group

English
93C0473-1
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SS-H2800

SERVICE MANUAL

E Model
Australian Model
Tourist Model

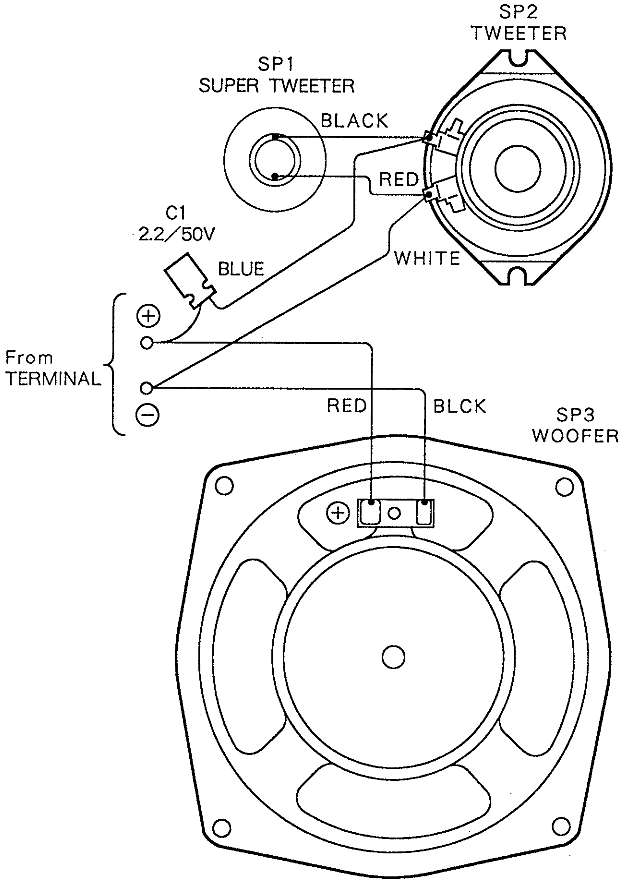
PHOTO : RIGHT CHANNEL

This set is the speaker system in FH-E6X.

SPECIFICATIONS

Speaker system	3-way, magnetic shielded
Speaker units	Woofer: 14 cm (6 in.) dia., cone type Tweeter: 6 cm (2 $^3/_8$ in.) dia., cone type Super tweeter: 2 cm ($^{13}/_{16}$ in.) dia., dome type
Sensitivity	89 dB/W/m
Effective frequency range	55 — 20,000 Hz
Rated impedance	6 ohms
Dimensions	Approx. 175 x 350 x 240 mm (7 x 13$^7/_8$ x 9$^1/_2$ in.) (w/h/d)
Mass	Approx. 4.1 kg (8 lb 13 oz)

1. WIRING DIAGRAM


SP2
TWEETER
SP1
SUPER TWEETER
BLACK
RED
C1
2.2/50V
BLUE
WHITE
⊕
From
TERMINAL
⊖
RED
BLCK
SP3
WOOFER
⊕

SPEAKER SYSTEM

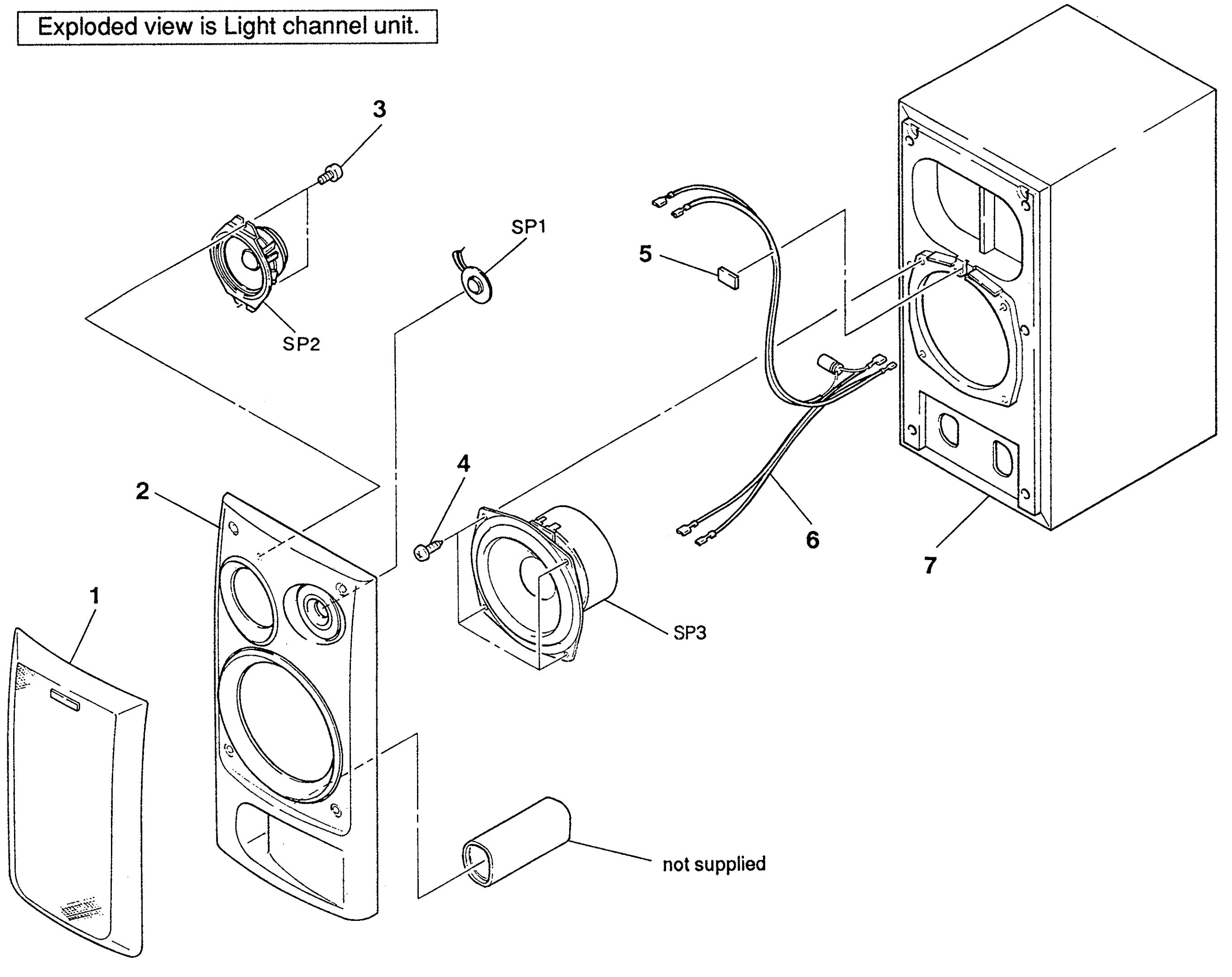
SONY®

2. EXPLODED VIEW

NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

2-1. CABINET SECTION

Exploded view is Light channel unit.



Ref. No.	Part No.	Description	Remark
1	X-4943-104-1	FRAME ASSY, GRILLE	
2	X-4943-102-1	PANEL (R) ASSY, FRONT	
	X-4943-103-1	PANEL (L) ASSY, FRONT	
3	3-703-564-01	SCREW, TAPPING	
4	4-874-614-11	SCREW +BVTP 3.5x14	
5	9-911-844-XX	PACKING	
6	1-696-798-11	CORD, CONNECTION	
* 7	X-4943-105-1	CABINET ASSY, SPEAKER	
SP1	1-544-293-11	SPEAKER (SUPER TWEETER)	
SP2	1-504-253-11	SPEAKER (TWEETER)	
SP3	1-504-214-11	SPEAKER (SUPER WOOFER)	

Sony Corporation
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